

# Marine Review

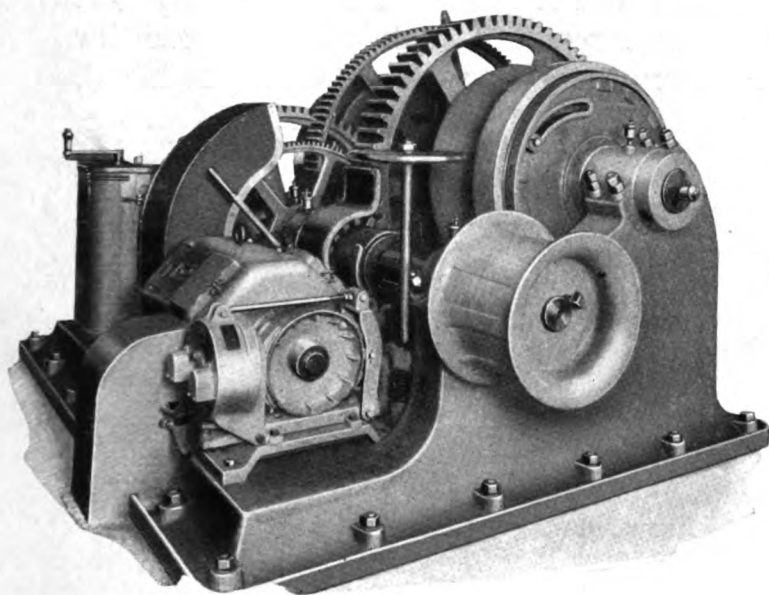
THE BUSINESS OF TRANSPORTATION BY WATER

NEW YORK CLEVELAND LONDON

Published Monthly  
Vol. 55, No. 6

JUNE, 1925

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### Your Guide To this Issue

#### Fire Hazard

IT IS astonishing, but true, that the hazard of fire on board ship is on the increase. Is carelessness to the danger a possible reason, and what can be done to check this menace? A question of vital importance to the insured as well as the insurer.

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#### Keel Laid

THE keel has been laid for the largest and finest passenger vessel ever attempted in America. You will be interested in an illustrated account of this epoch making event.

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A RECENT court decision finds that the ship is not liable for the deterioration of grain from natural causes while stored in its holds.

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CHAIRMAN O'CONNOR is showing qualities as a liquidator. But on his return to Washington his efforts are not looked upon with favor by the minority group.

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#### Shipowners' Plan

THE shipowners have at last agreed on a plan to promote a privately owned American merchant marine, and President Coolidge is giving it serious consideration. May not this be the beginning of a sane progressive merchant marine policy?

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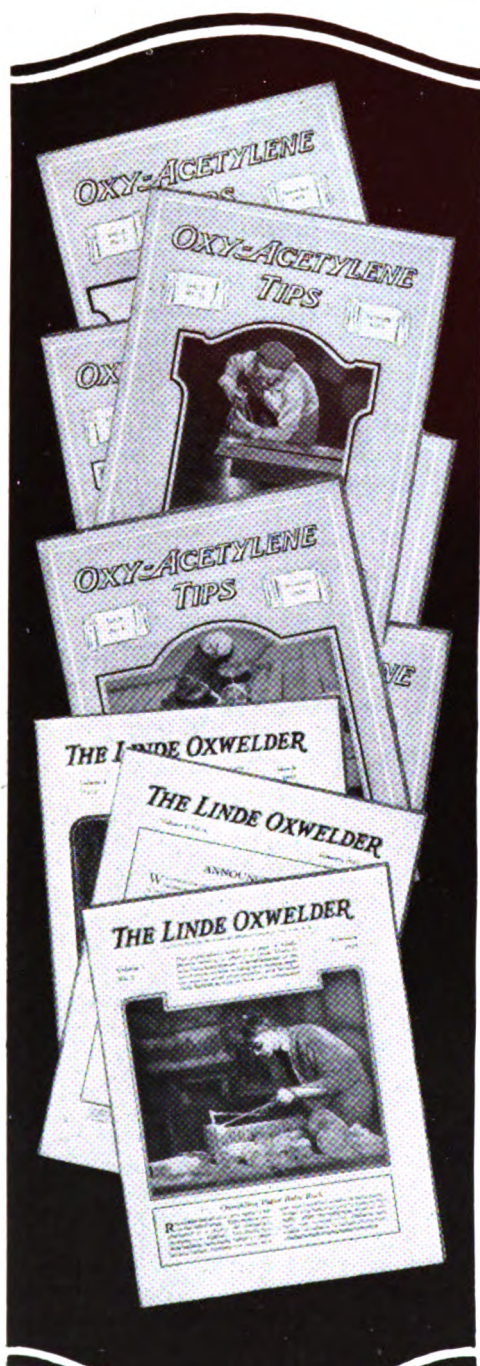
#### Panama Tolls

AN ACCURATE knowledge of the basis for levying tolls for transit of the Panama canal will save money and avoid delay. Read what the governor of the Panama canal has to say.

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# "I'll be bound"



THOUSANDS of copies of "Oxy-Acetylene Tips" can say this. This monthly magazine is saved and it is bound because the first number (August, 1922) is just as valuable for reference today as when it was published.

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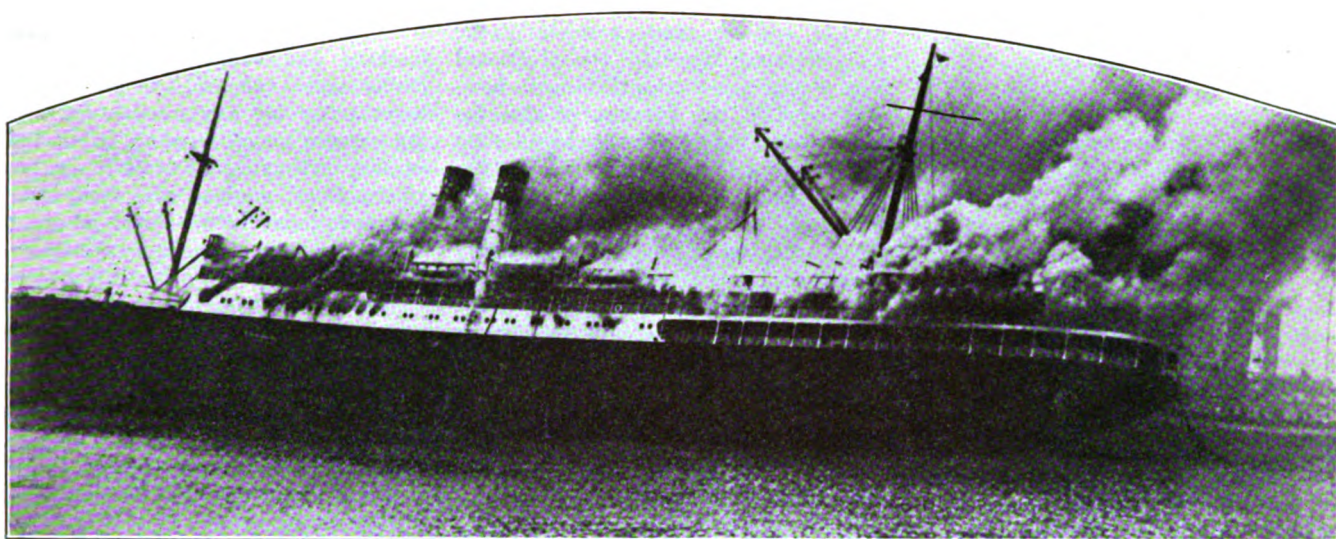
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S. S. Bienville on fire at New Orleans, March 19—Completed last fall at a cost of \$2,500,000—Loss estimated at \$1,000,000

# Fire Casualties Can Be Reduced

Comply with All Federal, Classification and Underwriters' Regulations—Drill the Crew in the Use of Ship's Fire Detecting and Fire Prevention Equipment

BY A. H. JANSSON

**W**HEN the TITANIC, striking an iceberg in the Atlantic, went down with an appalling loss of life the entire civilized world was stirred into action to prevent if possible the repetition of such a disaster. An international conference on safety of life at sea was called to meet in London. Much good came of this conference; specifically for instance, that all ships must thenceforth carry life boats of sufficient capacity for all on board. It seems therefore that great disasters must precede action to rectify the cause.

Is history to repeat itself and will it be necessary to experience some outstanding loss of life due to fire on board ship before the lesson is brought home with sufficient force to give impetus to better protection against this menace? The many recent serious fires on shipboard and particularly on American ships have not, fortunately, been accompanied by loss of life except perhaps in individual instances.

How easily it might have turned out differently. Take the case of the steamship MOHAWK, on Jan. 2, 1925, off the coast in the vicinity of Brandywine Light, with a fire in her cargo hold which was becoming increasingly more menacing to the lives of her 227 passengers and crew, when the captain turned her in shore and all were taken off in small craft. The transfer was made under great diffi-

culties but without loss of life. Under slightly different circumstances, entirely beyond the control of those responsible, great loss of life might have resulted. As it was, the ship became a total loss and is now being replaced by a new vessel costing about \$2,000,000.

On March 19, 1925, at New Orleans, the fine new passenger and cargo liner, BIENVILLE, only completed at the end of Nov. 1924, took fire from an unknown cause and before it could be checked the vessel had to be beached and all of her quarters and top hamper were completely demolished at an estimated loss of \$1,000,000. No passengers and only a part of the crew it is said were on board. Fortunately no lives were lost. Instead of reconstructing her as a passenger ship, this vessel will be turned into a freighter at a cost of \$249,000. The accompanying illustration shows vividly the extent and headway made by this spectacular fire.

The PRESIDENT POLK at her dock in New York, November, 1924, suffered so serious a loss by fire that a sum of \$500,000 has since been spent on her in reconstruction. To be sure she is said to be even a better ship now than before the fire.

At Linden, N. J., on Jan. 14, 1925, the large tanker, WM. BOYCE THOMPSON, was practically destroyed in an explosion followed by a fire which raged in her tanks for 30 days and

then was only extinguished by submerging the ship. The accompanying illustration showing the vessel in Robins Drydock will give some idea of her condition after this disastrous fire. The reconstruction was completed early in May and she is now as good as new. The cost of this elaborate rebuilding is not known but it is believed to be at least a quarter of a million dollars.

Two other comparatively recent serious fires occurred on the steamship ONEIDA in Boston, on Jan. 15, 1925, and the steamship NEWPORT in New York on Dec. 31, 1924. Both vessels were reported to have been badly damaged.

That the present seriousness of marine fire hazards is also appreciated in Great Britain, by the underwriters at least, is clear from the casualty returns issued by the Liverpool Underwriters' association. For the year, 1924 this association shows that out of a total number of 7224 casualties to vessels of 500 gross tons and over, which have been listed, 489 cases were caused by fires and explosions, or 6.8 per cent of the total. Of these 489 cases, 20 represented a total loss of the vessels concerned. Three of these 20 were British and the remainder, including four sailing vessels, were foreign owned. An analysis of the casualties shows that the kind of cargo carried made no particular difference, and that fire is liable



to break out in the holds regardless of the nature of the goods carried. The *Liverpool Journal of Commerce* in commenting upon this report said: "The risk of fire in bunkers and with certain inflammable cargoes is well established, and special precautions have to be taken against it, but it would seem with the proportion of fire casualties increasing, that the time has perhaps come when more attention should be paid to this matter generally than has been done in the past."

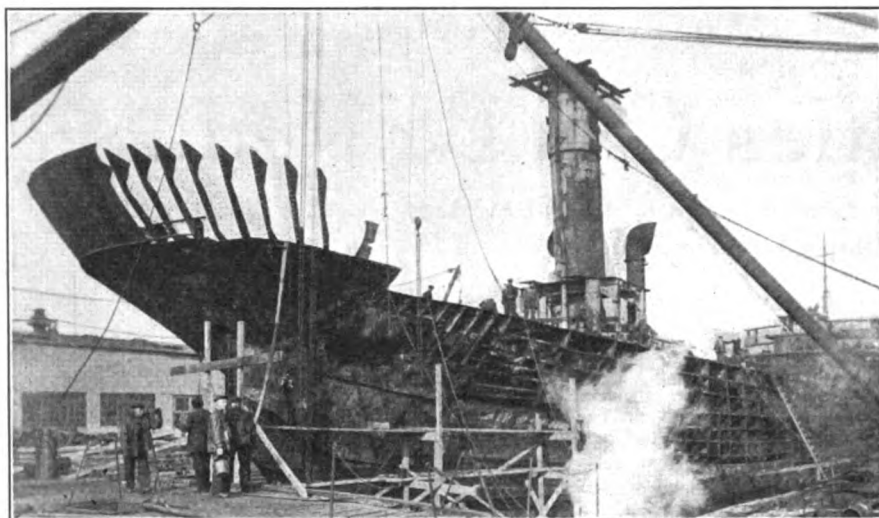
It is safe to say that no other causes of mishap to a ship except collision and lack of stability have been so carefully studied as fire and ex-

fication societies and particularly the underwriters through the National Fire Protection association have, however, studied the question of fire detection and prevention on board ship with great care, as theirs is the apparent moral and financial responsibility. In the final analysis, however, the moral and financial responsibility is shared by the naval architect and the owner and the time has now come when they ought to help to initiate and fully co-operate with these other agencies in building and operating the ship so that fire hazard may be reduced to the humanly possible minimum. That such complete co-operation would have its effect in prevent-

ties, regulation for freeing oil tanks, bunkers and compartments of flammable and explosive vapors previous to entering for any purpose or making repairs on oil burning or oil tank vessels, electrical installations and where diesel engines are used. Recommendations have been made at length in each of the above instances by the National Fire Protection association all of which seem to be wise and reasonable and intended to secure the greatest possible safety for the ship and cargo. Every shipowner should insist upon the fullest application of these regulations. Special care and watchfulness should be observed in the loading, stowage and discharge of cargo to prevent fires due to smoking and carelessness by the men working cargo. Should any rule or detail of the regulations when actually put in force in practice seem to impose an unnecessary burden on the ship and appear not warranted by the hazard involved, its modification and possible elimination should be considered on its merits by all concerned.

Having then followed the rules laid down in the mechanical details of design and building of the ship and in the stowage of cargo, we come to the appliances to be used for detection of, and for fighting fire should it once break out.

In the first place every ship is required to have a system of fire mains with hose connections and fire hose supplied with an ample quantity of water under a good pressure. The design and layout of this system should receive particular attention so that it will not only comply with the regulations but be in fact a convenient straightforward efficient reliable system which can be brought into action in the shortest possible time any moment it may be needed, night or day. Then, there are of course fire buckets and chemical extinguishers which should be ready and conveniently located at all times accessible to crew or passengers in order to be effective in fighting any fire at the start while it is still small. Steam jets controlled by master valves in accessible location are considered a satisfactory means of fighting fire below decks in cargo spaces of a vessel, in the present stage of development of extinguishing apparatus, according to the National Fire Protection association. The sizes and number of steam smothering pipes are designated by the association on the basis of an available steam pressure of 100 pounds and the cubical contents of the compartment served. The use of inert gas, such as carbon dioxide for extinguishing or prevent-



TANKER WM. BOYCE THOMPSON IN DRYDOCK AFTER AN EXPLOSION AND OIL FIRE WHICH STARTED ON JAN. 14 AND RAGED FOR 30 DAYS

plosion with the view of working out practical means of prevention. But there is a marked difference in the manner in which these problems have been approached. Any qualified naval architect has undoubtedly looked upon such questions as, proper subdivision for safety in case of collision, and a thorough grasp of the problem of stability as an absolutely essential part of his knowledge of the art, whereas in regard to fire detection and prevention he has no doubt felt that to follow and live up to the rules and regulations imposed by the government, the classification societies and the underwriters, in a more or less perfunctory way, was quite sufficient without any particular deep and independent study of the subject on his part or that of the profession he represented. In other words, such advances as have been made have been more or less forced upon the naval architect as the representative of the owner, by other interests who have something at stake.

The Federal authorities, the classi-

ing some of the losses which now occur is certain.

It is not necessary here to set down the many rules and regulations for fire detection and prevention formulated by the Steamboat Inspection service, the classification societies and the National Fire Protection association. The rules of the United States Steamboat Inspectors are specific in their requirements but, of necessity, general in how and by what means these requirements should be carried out. The rules of the classification societies of course apply mostly to detail of construction of the ship, tanks, piping and electric fittings. The rules of the National Fire Protection association, however, go into every phase of the question in most careful detail.

#### Shipowners Should Co-operate

Studies have been made by different agencies both abroad and in this country to reduce marine fire hazards due to specific causes, such as spontaneous combustion in bunker and cargo coal, the carrying of hazardous commodi-



ing fire may be applied to holds, bunkers and other closed compartments not ordinarily accessible to crew or passengers. Though of itself not harmful, as this gas excludes free oxygen, life cannot exist in its presence and therefore gas of this character is restricted to such spaces. The association goes on to say that on motor vessels and those lacking the boiler capacity to permit effective application of steam smothering, the installation of a gas system, within the limits set forth, is recommended. On ships where coal or wood is used as fuel under boilers, the rules call for a steam fire hose, coupled to the injectors of sufficient length to reach all parts of the fire room, this to be in addition to the regularly prescribed hose and extinguishers in each fire room.

#### Sprinkler Methods Encouraged

In fire rooms on ships burning oil, however, conditions are quite different as an oil fire cannot readily be put out with water or steam. Use of water in fact is dangerous as it may spread an oil fire. It is therefore required that firerooms of this type carry a sufficient number of 2½-gallon foam-type chemical fire extinguishers. A box of dry sand with a scoop may also be supplied. For inaccessible parts of the fireroom such as under boilers, floor plates and bilges, a piped extinguishing system is recommended and approved, to be operated by either automatic or manual control or a combination of both. Control of manual systems should be from both inside and outside of the fire room and engine room spaces. The type, number and location of extinguishers and layout of pipe lines and nozzles are subject to approval.

The use of sprinkler fire protection on board ship has not been received with any enthusiasm. Probably rightly enough, the main objection seems to have been that the design and construction offered differed little

from those used ashore and were entirely unsuitable for the hard wear and tear of marine use. To overcome this objection and to encourage the use of this method, the National Fire Protection association has recommended that the system and apparatus be made as simple and inexpensive as possible and to comply in every detail with the regulations laid down. It is suggested that the design be such that it operate only in case of fire and so as not to subject the ship or cargo to damage due to freezing, accidental operation, breakage or any other cause other than fire. To this end, the recommendations continue, the sprinkler pipes should preferably be empty and under atmospheric pressure, but served by pumps of ample capacity. The control should be dual, both manual and automatic with the latter attained only through the use of thermostatic control or in some other way to prevent the release of water except in the presence of heat. Automatic sprinkler equipment is recommended in cabin, store, crew and passenger spaces, and optionally in cargo and machinery spaces, as it is usually difficult to stow cargo or arrange machinery to allow proper distribution of sprinkler equipment.

Detection and alarm is an important phase of the problem of reducing fire hazards on board ship. This is recognized by the association and it recommends that on passenger and cargo vessels except tankers, pipes for detection of smoke or fumes be led from holds, bunkers and inaccessible parts liable to fires to the bridge, engine-room or other points where they may be readily observed. The vessel should also be equipped throughout with an efficient fire alarm system approved both for type and installation. A fire alarm system is required by the United States Steamboat Inspectors on all passenger vessels over 150 feet in length.

It seems perfectly clear that the problem of fire prevention on ship-

board has been seriously considered for some time and that years of practical experience have emphasized the importance of observing the rules and regulations which have been formulated. This does not mean that perfection has been reached in systems and methods of detecting, preventing and fighting fire when it has started. Continued efforts toward improvement are necessary and should be encouraged.

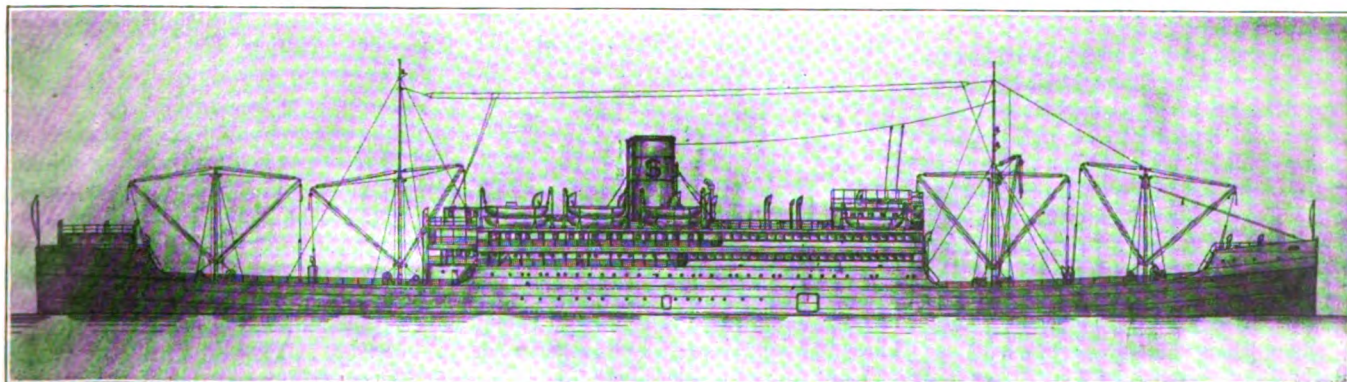
#### Drill the Crew Efficiently

All rules and regulations and systems complete in every mechanical feature will not avail unless the human element of neglect, carelessness and inefficiency is overcome. To overcome this the officers and crew should be thoroughly impressed with the ever present danger of the outbreak of fire. Along these lines no better recommendations can be made than to follow the instructions and notice issued by the British board of trade to surveyors, shipowners, and masters as follows:

"Good strong hose pipes should be provided, and there should be a forceful and abundant supply of water. In all ordinary cases water is the most effective medium for extinguishing fire.

"The ship should be regularly patrolled. The first knowledge of fire is often obtained by smell. The ventilators and other openings to the holds and store rooms should be regularly visited for the purpose of ascertaining, either by sense of smell or observation of smoke, whether everything is right or not. A fire which, in its initial stage, might be quite easy to extinguish may, if allowed to develop, rapidly become of such a fierceness and size as to be beyond control.

"If an outbreak of fire cannot be located, or a hose cannot be brought to bear directly upon it, it is well to bear in mind that fire cannot burn without air. Spontaneous combustion, moreover, is often due to absorption of oxygen from the atmos-



THE NEW PRESIDENT POLK—REBUILT AT A COST OF \$500,000 AFTER A SERIOUS FIRE WHILE AT HER DOCK IN NEW YORK, NOV., 1924



phere and in these cases endeavors should be made as far as possible to prevent air reaching the fire and feeding it. Ventilators, sounding pipes and other openings should be closed.

"Steam is sometimes useful for extinguishing fire, but to be most effective it should displace the atmosphere and thus shut off the air supply to the fire. All openings to the compartment to which steam is ad-

mitted should be shut, and the volume of steam should be such that, should there be any leakages through the walls of the compartment, steam will escape and thus prevent air entering.

"When the ship is in port a pressure of steam should be kept on one of the boilers, so that the steam pumps and a plentiful supply of water will be always available for immediate use.

"Fire drill should be regularly car-

ried out, the hose pipes being put into use. Each member of the crew should know what duty is allotted him. Smoke helmets should be provided and the permanent members of the crew should be practised regularly in their use. It is only by practice that members of a crew can be used to their full efficiency. A well-practised crew can do work quite beyond the power of a crew that is unpractised."

Vigilance is essential to safety.

## Use New Methods to Promote Travel

THE business of passenger travel on the seas is undergoing a marked change, due to legal restrictions upon the formerly free and easy entry into the United States. In the old days the steerage or third class represented by far the greatest part of the business done and consequently the largest source of revenue. From present indications the policy of restrictive immigration will be continued indefinitely and may possibly be made still more rigorous. Naturally the total of third-class and steerage accommodations is far in excess of present or future needs. How to put this excess of space to profitable use in one of the problems facing the larger passenger lines. A selected part of this space may be converted into comfortable second-class accommodations and other parts into extra cargo space.

At the same time it is now more necessary than ever before to increase the desire and habit of ocean travel among the public in general. A certain class is accustomed to travel for pleasure. With another large class travel is incidental to the conduct of business. The number in both of these classes will gradually increase. However, there is a large public in every land who are financially so situated that they could and would travel if they knew more about the pleasure and benefits they could derive from doing so.

Two recent departures in attempts to increase passenger business are interesting on account of their novelty and as an indication of progressive and up-to-date methods and alertness on the part of the companies using them. The Cunard Steamship Co., hit upon the idea of advertising exclusive use of third-class accommodations on some of their finest ships at a low round trip rate for a class of people of whom there are large numbers in this country, persons of limited means but of intelligence, education and good taste. The company rightly feeling

that a low price for plain but clean accommodations, good wholesome food and pleasant companionship with persons of similar tastes would appeal to many people who did not feel that they could afford to travel first or second class and would not consider going ordinary third-class or steerage.

The Hamburg American Lines have recently employed the medium of the motion picture for showing the public of Germany the delights and advantages of ocean travel. A four act

film entitled "From Hamburg to New York" with the "Hapag" had its premier showing on July 23, 1924, at Gotha. A lecture was delivered in conjunction with the progress of the picture, which illustrated the maiden trip of the twin screw ALBERT BALLIN, showing the passenger accommodations of all classes and the life and action on board both on deck and in quarters during the trip across. Finally at the end, the harbor and city of New York is shown.

## Marine Standards Progress

EFFORTS toward the development of standards to enable the more economical operation of American shipping, was given further impetus by the meeting recently of six subject committees of the American marine standards committee to which have been assigned the development of tentative standards in a wide range of subjects. Three of the meetings were held in Philadelphia and three in New York City.

These committees considered the following subjects, "water-tight and non-water-tight hinged doors and fittings," with E. L. Stewart, naval architect of the Standard Oil Co. of New Jersey as chairman; "rail and awning stanchions, fixed ladders—metal and wood—and pilot ladders" with E. R. Bean, assistant naval architect of the New York Shipbuilding Corp., Camden, N. J., as chairman; and "cargo booms and cargo boom fittings," with John C. Craven, naval architect of the Federal Shipbuilding & Dry Dock Co., Kearny, N. J., as chairman.

Two other subject committees considered chinaware, glassware, tableware and oil lamps; and textiles such as blankets, mattresses, pillows, cushions, linens and cottons, under the chairmanship of James Swan, editor of

Marine Engineering & Shipping Age for the first group and D. A. Whamond of the N. Y. Porto Rico line for the latter group.

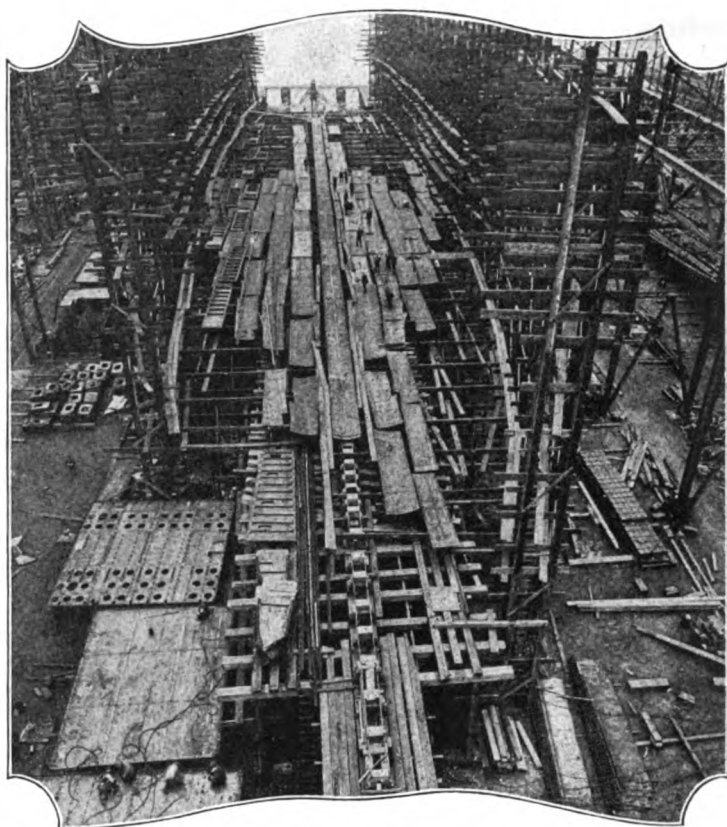
The last, though by no means the least important subject committee, that on "operation of the ship" met for its fourth session in the office of the chairman, Robert F. Hand, 26 Broadway, where rules, instructions, documentary forms or other material in the interest of the efficient operation of the ship as a business institution were considered. This committee's work also embraces "housekeeping of ship," inspection and tests of safety equipment, organization, care, conduct and efficiency of the ship's personnel and the handling and care of passengers, cargo and stores.

All of these committees have now met anywhere from three to six times and progress is constantly being made. Much good will come of this work in simplifying and standardizing to best practice all of the many parts entering into the building and operation of the ship. Cost will be reduced and efficiency increased. It is a splendid piece of work and the fruits of this great labor should be thoroughly applied, simply as a matter of good business management.



# Keel Is Laid For New Hawaiian Liner

Work on S.S. Malolo Definitely Begun—Will Be Completed in February, 1927—Finest Passenger Ship Ever Built in America



KEEL OF THE S. S. MALOLO, LAID AT WM. CRAMP & SONS SHIP & ENGINE BUILDING CO., MAY 4, 1925

**I**N THE building of a ship, three periods are of peculiar significance due to the definiteness with which they mark progress. These are of course, the laying of the keel, the launching, and the delivery to the owners after the acceptance trial. The orderly, inevitable, undeviating execution of an idea is the true distinction of a civilized state. Some time, probably years ago, someone proposed that the largest, fastest and most luxurious of all American ships should be built for the growing trade between San Francisco and the islands of Hawaii. Many brains for many days since labored on this idea to translate it into definite plans and specifications, clearly stating to the initiated, just what was wanted.

After planning and replanning, conferences and negotiations innumerable, which of course included the matter of finance, bids were requested from all of the leading shipyards. The lowest bidder was awarded the contract. Then came changes in the plans and specifications and new bids resulted. But through it all, the execution of the idea, born of the vision of some man or group of men, went on with certainty. And that is why it was particularly appropriate to observe with proper ceremony, the first most important event in the building of the S. S. MALOLO, the laying of

the keel at William Cramp & Sons Ship & Engine Building Co., Philadelphia, May 4, 1925.

The account of the ceremony stated that the keel was laid under the personal direction of the president of Cramps, J. Harry Mull, and in the presence of representatives of Gibbs Brothers, Inc., consulting naval architects under whose supervision the vessel is being constructed. The significance of the event was even more emphasized by the fact that work in all departments was practically suspended while the men watched the laying of the keel plates of what is destined to become the largest and finest merchant vessel hitherto built in any American shipyard.

## Nearly Two Years to Complete

Twenty-one months, it is estimated in additional time and a total of \$6,560,000 in money will be necessary to complete the vessel for delivery in February, 1927, in time to begin active service in the spring of that year. Measuring 582 feet in length, 83 feet in beam, 28 feet 6 inches in draft and 22,000 tons in displacement, the MALOLO will excel in many respects the ordinary first-class passenger liner. The propelling machinery, of geared turbine type, having a capacity to drive the ship at a sea speed of 21 knots, will be designed and built by

the Cramp company. Though built for the American-Hawaiian Steamship Co., this vessel has been specially designed for the requirements of the Matson Navigation Co., and will be sold to this company when completed to enter their San Francisco-Honolulu service. She will make this run, with a sea speed of 21 knots, in four and one-half days which is one day less than the best time of any vessel now making this trip.

Aside from her requirements as a fast liner with accommodations for passengers equal to the highest standard afloat, the MALOLO is so designed as to prove the most valuable addition to the naval reserve resources of the United States in the Pacific ocean. The plans have been revised to conform with naval requirements as an auxiliary cruiser, and have been approved by the navy department. The specifications, which are said to be the most complete ever issued for a commercial vessel, call for the very highest grade of marine construction, fittings and equipment. She will have underwater steering gear and her decks will be reinforced for gun emplacements. In time of war or other emergency she would be fully equipped to serve as a troopship or other naval aid. In providing these facilities the designers have been careful to fully observe the limitations of the arms



conference, affecting such vessels.

Accommodations are provided for 600 first class passengers and there will be 160 private baths, a larger number than on any other ship. There will also be a swimming pool and electric baths. A complete system of mechanical ventilation will be installed for use in the warm climate the vessel will encounter in her run to the Hawaiian Islands. The cargo space will include refrigeration space for fruits and other perishable commodities, as well as for the ship's stores. The vessel will carry a crew of 270.

The staterooms will be 270 in number. In addition to those with private bath there will be a large number both with and without private lavatory accommodations for passengers traveling alone. Supplementing the regular de luxe suites provision has been made for connecting doors wherever practicable between staterooms to permit of making up additional suites by the removal of bedroom furniture and replacement with parlor furniture, a surplus of which will be carried in

the ship's storeroom. The ship will have four decks. The public rooms on "A" deck will consist principally of the library lounge, ballrooms, lounge, smoking room and veranda, all connected on the port side through spacious foyers and galleries, giving a vista of more than 300 feet. On the starboard side opposite the galleries the spaces are divided up into writing room, ladies' rest room, men's washroom and service pantries.

#### Will Have Latest Equipment

Running the full width of the ship, the main dining saloon will be 108 feet long and will extend at its forward end twenty-three feet further through two alcove coffee rooms, suitable for use as an auxiliary dining room, if necessary, or for private dinner parties.

The liner will be equipped with radio telephones of the latest and most powerful type. Elevators for passengers and crew will be installed, and all the ship's staterooms and public rooms will be provided with

forced ventilation of air heated to the required temperature, with natural exhaust, and in addition all passenger staterooms will be equipped with electric heaters.

Steadiness and safety will be enhanced because of the ship's great beam of eighty-three feet. This beam is large in proportion to length, and will give her a maximum of stability at sea. In fact, with all tanks empty and no cargo, stores or ballast on board and boilers empty, the vessel will have a greater stability than most vessels in ballast trim. This large beam in conjunction with her bilge keels of thirty-six inches in depth will make her an easy ship at sea, with rolling reduced to a minimum.

A feeling of complete confidence exists that a first rate job will be done as the Cramp shipyard has had a wide experience in building high class passenger and freight ships, including some of the forerunners of the famous Atlantic greyhounds, one of which at one time held the transatlantic record for speed.

## Oakum—What It Is and How It's Made

THE use of oakum did not, as one might be inclined to think, go out with the coming in of iron and steel ship. Nothing has yet been discovered to take the place of wooden decks even for steel ships, and wooden decks must be caulked much in the same way as the seams in the planking of wooden ships. As ultra modern examples of the use of wooden decks on steel ships, the airplane carriers, *Saratoga* and *Lexington*, might be mentioned. The first was launched on April 7, 1925 at New York Shipbuilding Corp. and the latter, still on the ways is under construction at the Fore River plant of the Bethlehem Shipbuilding Corp. These vessels will have immense flat decks of teak, two acres in area for each. With a ship's length of nearly 900 feet and a width of 105 feet, the size of these floating airplane landing and taking off fields, can only be dimly imagined until actually seen. The chances are that more oakum will be used in these ships than in many of the early wooden frigates of the line when the navy was young. Though steel is now almost universally used in the building of ships, a large number of smaller crafts and many lighters and barges are still constructed of wood. A great deal of oakum is also used for recaulking of many older vessels of wood which are still running.

Oakum is a very old product and its first discovery and use is not definitely recorded. It is defined as a preparation of tarred hemp fiber obtained by untwisting and picking out loosely the yarns of old hemp rope and from new soft hemp fiber. These yarns are carefully combed out, thoroughly cleaned and rolled, coming out in loosely knit sheets which are cut into strips. The strips are passed through a bath of tar and the fibers become thoroughly impregnated without being saturated. The narrow flat strips are then rolled or spun as it is called into the usable form of oakum. To be good for marine caulking it should be made entirely of soft fiber hems, which have been thoroughly carded and combed. The resulting fibers have length and strength so that when impregnated with tar and spun either by hand or machine, the finished thread is just right for a ship caulking. Impregnating the fibers with a superior quality of pine tar is a most important part of the process of manufacture. The fibers must retain sufficient tar to make them impervious to water. Care must be taken so that they do not become saturated and soggy since the tar itself is not a good caulking material. Good caulking oakum possesses a degree of elasticity and expands and contracts as the seam expands and

contracts, thus making a tight joint under all conditions of temperature and ordinary stress and strain.

The fresh raw material for a good quality of oakum is imported from Russia, India and Italy. Most of the cordage used in European countries is also made from the hems received from the same sources. When this cordage has served its period of usefulness and is discarded, it comes into the market as raw material for high grade oakum and much of it is imported by mills in the United States for this purpose.

Marine oakum is used for caulking the hulls of all kinds of wooden vessels and wooden decks of steel vessels, cassions and floors. As a rule there are three grades of unspun and spun oakum, respectively. Unspun oakum before it can be used must be spun by hand before use. This will cost from 3 to 5 cents a pound while the spun oakum if bought directly from the factory will average about 1 cent a pound more than the unspun product.

It is false economy to use poor grades of oakum because of the apparent saving in first cost. The extra time in labor alone required to apply a poor quality of oakum will offset the difference in price and the finished job will never be satisfactory, thus in the end costing many times more than the difference in price between



high quality and poor quality. This is so particularly true of this product, the total cost of which in the building of a steel ship is only an insignificant fraction of the whole. In this connection a leaky wooden deck over passenger quarters may cause an endless amount of annoyance, ill will and a good deal of expense. The very best sort of a job done at the start is

decidedly the most economical.

As the total consumption of oakum is comparatively limited, the number of companies engaged in its manufacture is small and consequently processes and machinery used has been developed individually.

This has been done to a high degree of efficiency by the Geo. Stratford Oakum Co., Jersey City, N. J., said

to be the largest and best equipped manufacturer of oakum in the world. An inspection of this plant will prove most interesting and instructive in showing how this ancient commodity is made by the use of modern machinery ingeniously developed to meet the particular needs of that special business. By such methods the cost of production has been reduced.

## Guy E. Tripp on Shipping Situation

**T**HE views of Guy E. Tripp, chairman of the Westinghouse Electric & Mfg. Co., on the American foreign shipping situation given in his address before the Propeller club in New York City on April 2, should be carefully considered by all who are trying to help in consolidating and increasing American tonnage in the foreign trade.

He said in part: Our shipping did not pass out along with sailing ships, but on the contrary we were abreast of the maritime world in steam ships when the Civil war broke out. Shortly after the Civil war, while the internal taxes were abolished, the import tariff duties remained, but upon a fundamentally different basis; that is to say, the import duties upon purely revenue articles were abolished while those which served to protect domestic industries were maintained.

The resulting high wages and consequently high costs were beneficial to those engaged in domestic trade and they did not entirely close the door to foreign trade.

But, in the case of American shipping, the door is completely shut. It cannot take any advantage of lower foreign costs; therefore, when it had to compete with these lower costs, it succumbed and remained succumbed until the World war.

It seems to me that the case is so clear you can hang your hat on it. Complaints and criticisms alleging the loss of our seafaring genius and ability as the reason for the decline of our shipping have no force of logic.

### Interest in Protection Not Ships

So, when the successful American business man has looked complacently down at you through all these years, he was not taller than you, he was merely standing upon a tariff wall.

Please do not anticipate an attack on the protective tariff because you will be disappointed. I am in favor of protection.

As a result of our truly marvelous efforts in shipbuilding during the war

we now have a respectable merchant fleet, a large portion of which, it is true, is inactive. But we are now carrying about 35 per cent of our foreign commerce in our own ships.

The past history of our merchant marine points out very clearly what the future will be, assuming certain conditions; and, as there are conditions under which we might again revert to practically no American ships in foreign trade, it may be well to ask ourselves if we really need them for any reason.

Our British friends appear to think that we do not; and here he quotes Sir Westcott S. Abell in Brassey's Naval and Shipping Annual 1925:

In other words, he says, Great Britain's superior shipping does not hinder the proper development of our foreign trade because we have a favorable balance of trade with her. I cannot follow this reasoning.

I sympathize with England's desire to be strong on the seas both as to her navy and merchant marine. But we need a merchant marine for reasons of our own which do not in any way threaten the security of Great Britain and the reasons are admirably summarized in the Republican platform of the last presidential election.

"The Republican party stands for a strong and permanent merchant marine built by Americans, owned by Americans and manned by Americans to secure the necessary contact with the world markets for our surplus agricultural products and manufactures, to protect our shippers and importers from exorbitant ocean freight rates, and to become a powerful arm of national defense."

The democratic platform said about the same thing, therefore it is fair to say that the American people think they want a merchant marine. Whether they do actually want one will be shown by the amount of interest which they display in it in the future.

If we should strip our shipping of all its artificial patches, it would, so far as ship owners and operators are

concerned, stand forth in the nakedness of free trade; that is to say, it would have the right to buy its ships and have them repaired wherever it could get the lowest price and employ seamen wherever and whenever they could be hired to the best advantage.

Under these conditions it could probably compete successfully with the world; and, not only that, the United States shipping board would thus be enabled to get a competitive price for a portion of its ships and could then go out of the shipping business which is an end greatly to be desired.

### Shipping Entitled to Compensation

If you were permitted to buy and freely repair your ships in the cheapest market, it would threaten our shipbuilding industry. The simplest remedy for that curtailment of action would be the granting of a subsidy by the government as compensation for all or a part of the difference in cost.

Possibly you cannot hope for the right to hire seamen, at the best terms when and where you will. A cure for that is to place merchant marine officers and seamen in a sort of naval reserve, the government to pay the difference in wages and salaries over the competitive rate. It is stated upon excellent authority that this plan will permit us to carry at least 50 per cent of our own commerce in our own ships at a cost to the government of about \$10,000,000 per year—a trivial expense in comparison with the results.

But whatever plan we adopt to build up and preserve our American marine transportation service for the carrying of our foreign commerce, it should be limited in its ambitions to only an equitable share of the trade and that share may be fairly fixed at one-half of the total volume.

I leave this last suggestion with you because I believe it to be of vital importance in the maintenance of peace.



# Ship Wins Grain Damage Case

Important Grain Damage Case Decided in Favor of the Vessel Owner—  
Ship Cannot Be Held Liable for Spoiling Due to Inherent Vice in Grain Itself

THE steamer HUGH KENNEDY, then one of the Mitchell fleet, took on a cargo of 473,904 bushels of oats for winter storage at Buffalo in November, 1921. Under the contract between the Buffalo Steamship Co. owner of the HUGH KENNEDY and the Eastern Grain, Mill & Elevator Corp., Buffalo, owner of the oats, the terms provided that for a consideration of \$3500 the oats would be held in storage at Buffalo during the winter and would then be delivered to the Elevator company at Buffalo. After the loading was completed the ship's agent at Buffalo issued for the vessel a regular lake form grain bill of lading reciting that the grain had been received on board in apparent good order and condition and would be delivered back to the owner in like good order and condition. The bill of lading further recited that the grain was taken in "storage in vessel until April 1, 1922."

The HUGH KENNEDY lay under the breakwall at Buffalo during the winter and was brought in and unloaded early in April, and a large amount of damaged grain was found. Out of the 32 hatches of the steamer, grain was found damaged under 17, to an extent and degree which varied considerably. Under some hatches the dam-

age extended deep down into the cargo and under others the grain was wet and grown and sprouted all the way across the ship.

In terms of money valuation the damage amounted to about \$42,000. For the Elevator company the claim was made that the hatch covers and tarpaulins were defective and that the covers were insufficiently battened down. This the vessel denied and asserted that the damage to the grain came about through inherent vice and bad condition when loaded, which had developed during the winter and particularly during the few weeks just prior to unloading, when, as shown by the weather reports, the temperature was abnormally high. The vessel claimed that the grain was damp when loaded and that more moisture developed through sweating and that by reason of the hot weather the vapor moisture from the grain rose and on coming into contact with the under side of the steel decks, was precipitated and dropped back onto the grain, thus increasing the damage. No compromise being reached, the Elevator company brought suit in the United States court at Buffalo against the Buffalo Steamship Co., owner of the HUGH KENNEDY, and the case came on for trial early in April, 1925,

before Judge Hazel and a jury. A large number of witnesses were called for both sides, including marine surveyors and expert grain chemists. The case went to the jury on April 17, and after about 4 hours deliberation a verdict of "no cause of action" was returned.

An important point of law involved was the construction of the contract and the grain bill of lading. Judge Hazel held and so charged the jury, that it was not a contract of affreightment or transportation, but one of storage only, and that the liability governing warehousemen was controlling. In other words, that before there could be recovery, negligence on the part of the ship as a warehouseman had to be established. The verdict of the jury rested on finding that the hatch covers and tarpaulins were adequate and sufficient and the damage to the grain was due to its own defect.

The Elevator company was represented at the trial by Messrs. Brown, Ely & Richards of Buffalo, and Big- ham, Englar & Jones, of New York. The Buffalo Steamship Co. was represented by Thomas C. Burke of Buffalo and Goulder, White & Garry, of Cleveland. The verdict is most important in setting a precedent.

## Would Scrap Shipping Board

IN A practical and informative copyrighted article on the shipping problem, Prof. Emory R. Johnson of the Wharton School of Commerce and Finance, University of Pennsylvania, recommends the abolition of the shipping board and the scrapping of obsolete and unsaleable tonnage, thus joining the host of experts throughout the country who are now advocating the shipping policy first promulgated by Marine Review.

The government must eventually sell to private owners, taking what it can get in the open market, such ships as buyers can be found to purchase. The rest of the large tonnage must be scrapped. The cost of constructing and maintaining the tonnage thus scrapped will have to be charged off as one of the costs of the participation of the United States in the world war.

The shipping board has ample powers

of investigation. It can act to prevent unfair practices, and it has authority over the maximum rates of line carriers in interstate commerce, not over those in the foreign trade. Its powers over rates are, however, not extensive, and there is no probability of their being increased. A board is hardly made necessary by the rate-making provisions of the present law.

### Establish A Marine Division

In the future when the Government has gone out of the shipping business, the work of a shipping board will be mainly administrative. Will it not be wise to relate that work to the department of commerce which now supervises and regulates shipping in several particulars?

The logical step to take would seem to be to establish in the department of commerce a marine division or de-

partment headed by a marine commissioner appointed for a term of not less than six years and at a salary of at least \$12,000 per annum. A salary of \$15,000 would be advisable. This new division or department should be so organized as to take over the regulation of shipping provided for by the acts of 1916 and 1920. The new organization should also include the bureaus and divisions of the department of commerce that now have to do with shipping.

The organization proposed for the regulation and promotion of the American merchant marine would have greater administrative efficiency than a board can have. It would be able to do more to further the interest of American shipping than can be accomplished by continuing the present complicated and disorganized administrative machinery.

# British Shipping Holds Its Own

Coal Trade Shows No Improvement—Shipping Slightly Improved—Freight Rates Low but Firm—Large Sums Being Spent on Terminal Facilities—Motorship Building Increases

BY VINCENT DELPORT

*European Manager, Marine Review*

THE order for five large cargo motorships which the firm of Furness, Withy & Co. awarded to a German shipyard created a sensation in Great Britain. The difference in price on each ship was over £60,000 (about \$290,000). However, the Hamburg yard which captured the order had the advantage of favorable circumstances, and the loss of this order to British interests does not mean that the building of motorships cannot be successfully effected in Great Britain. The immediate result of the placing of this contract abroad was to bring about a joint conference of the shipbuilding employers and the shipbuilding trade unions to secure closer co-operation in the industry. Negotia-

pared with 10,515,685 tons in the corresponding period of 1924 and 11,514,300 tons in the first two months of 1923. The decline is steady. An interesting point of comparison is that given by the tonnage of coal shipped for the use of steamers engaged in foreign trade; the figures are 1,393,942 tons in February and 1,441,163 tons in January, the monthly average for 1924 being 1,474,075 tons. This tends to show that the activities of the mercantile fleet continue about on the same level.

## Coal Trade Severely Hit

The causes of the distressing conditions of the British coal trade were indicated in a previous article. They

Russia has sold 320,000 tons of coal to Italy. All this means loss of markets to Great Britain, although British prices have dropped. The average f.o.b. price for export in February was 20s 10.70d against 21s 6.87d in January and 21s 9.15d at the end of last year.

While coal exports are gradually declining, the total value of goods exported by Great Britain, the Dominions and the Colonies continues at about the best average of last year; the values for January and February 1925 were respectively £69,050,534 (about \$330,000,000) and £69,330,355 (about \$331,400,000). On the other hand, the value of imports was in excess of last year's. Among other

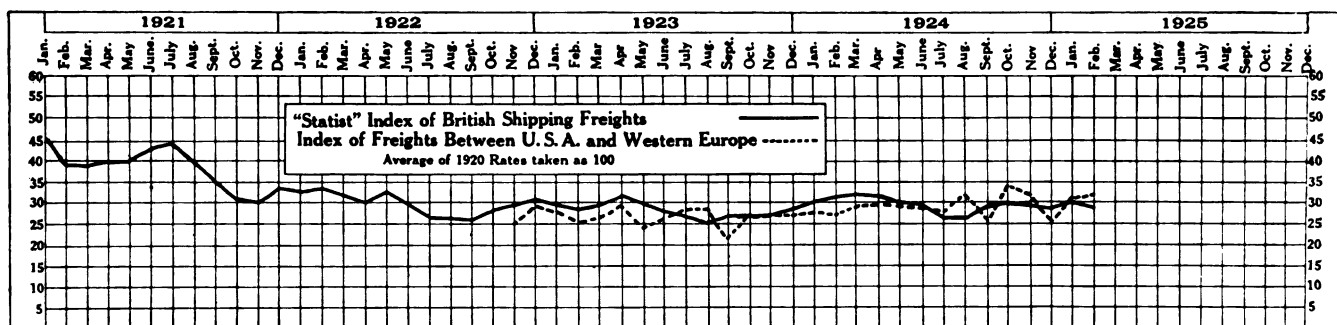


DIAGRAM SHOWING FLUCTUATION OF OCEAN FREIGHT RATES FOR FOUR YEARS AND TWO MONTHS

tions are also being held between the colliery owners and the miners with a similar object in view. Shipbuilding and coal mining, the two fundamental industries, are depressed and the conditions in the former industry are partly influenced by those of the latter.

Exports of British coal continue to decline. British markets are being captured by Germany while France, Belgium, Italy and other countries can buy at less cost on the continent. Since Jan. 1, 1924, about 300 mines have closed leaving 60,000 men to find other employment. Stocks at the collieries and at ports are exceptionally heavy for this time of the year and most of the collieries are working at a loss. Coal exports were 4,366,051 tons in January and 4,344,008 tons in February. The monthly average in 1924 was 5,137,600 tons. The total exports for the first two months of this year were 8,710,059 tons com-

remain the same. Briefly, the output per capita is too small compared with the output in continental collieries, and the wages paid to British miners are well above wages paid on the continent. Under the wage agreement now prevailing in South Wales it is claimed that the coal owners in that district, who are the hardest hit, will suffer a loss of over a million pounds (\$4,780,000) by the month of June when the agreement expires. It is too early yet to foresee what will be the outcome of the negotiations between employers and labor. However, in the first week of April export trade was slightly stimulated by an order for 150,000 tons for the Egyptian State railroad. On the other hand, the French State railroad is contracting with Germany and with the French collieries and is closing down its Cardiff office, and the Paris-Orleans railroad is also ordering in Germany. It is reported that

commodities, exports of iron and steel were below last year's average whereas imports were increasing; deliveries of iron ore were considerably reduced. The adverse balance of trade for the first two months of this year is £73,530,000 (\$351,475,000) or nearly twice that for the corresponding period of last year.

The movements of ships in British ports in January and February were about on the same scale as during the corresponding period of last year. During the two first months of this year, a total of 7609 vessels, trading foreign, of 8,089,309 register tons entered British ports compared with 6928 vessels of 7,369,241 tons in the corresponding period of 1924 and 6361 vessels of 7,001,839 tons in 1923. In the first two months of this year 9928 vessels of 10,101,484 tons cleared from British ports with cargoes to foreign destinations, including British dominions, compared with 10,148 ves-



sels of 10,000,348 tons in the corresponding period of 1924 and 9340 vessels of 10,271,867 tons in 1923. The total number of entrances and clearances for January and February 1925 was 17,537 compared with 17,076 in 1924 and 15,701 in 1923. Entrances as compared with the first two months of last year are on the increase both for British and foreign ships. Clearances show an increase of British ships but a larger decrease of foreign ships.

#### Freight Rates Are Too Low

The freight market has been unsatisfactory during the first quarter of this year. At the end of January there was considerable activity in homeward chartering from Australia at rates ranging from 50s to 55s, but since the boats went out in ballast from Buenos Aires or from British ports, little profit remained to the owners. The fact that they accepted business on these lines illustrates the depression of the market. In February rates, especially homeward, continued to fall and in March, homeward chartering came almost to a standstill. This is ascribed particularly to the lack of active interest in grain cargoes, especially in the River Plate market. However, a certain firmness was noted in outward coal freights from Wales at the end of March when 11s was paid for Port Said, but the effect of the use of oil-burning steamers on the coal trade is noticed. The index number of British shipping freights, as can be seen on the accompanying chart, dropped from 30.1 in October, 1924 to 28.2 in December. It then jumped suddenly to 30 in January, 1925, and dropped again to 28.8 in February with a falling tendency for March. Higher rates to South Africa, were agreed upon with the merchants represented by the South African Trade association for about 5 per cent of the articles shipped to that country; on other articles rates were reduced. A long controversy started in February between the Canadian government and the North Atlantic conference about freight rates in the Canadian North Atlantic trade. It was decided to refer the matter to a special committee.

Many schemes of improvement are in progress or in contemplation in the principal ports. A new quay and extensions are to be made in London, together with additions to the cargo-handling equipment. Southampton is now equipped with a floating dock built by Armstrong, Whitworth & Co. which successfully lifted the MAJESTIC. At the Bristol channel

the construction of a pneumatic grain elevator is well under way. The Great Western railway is improving the docks at Cardiff, Newport, Port Talbot and Swansea, in South Wales, at an expenditure of about £4,500,000 (\$21,510,000). Considerable work is also being done at Liverpool, Manchester, Glasgow, Leith, Dundee and on the North-East coast. A reduction of 7½ per cent in the port of London rates have gone into effect.

At the present time there are under construction in the world 31 vessels of between 10,000 and 20,000 tons each and 7 of 20,000 tons and upward. Sixteen out of the 31 and five of the larger vessels are building in Great Britain and Ireland. Out of 55 tankers, each of over 1000 tons and totaling 352,143 tons which are under construction in the world, 20 of 122,128 tons are building in Great Britain and Ireland, 14 of 121,000 tons in Germany and 15 of 79,930 tons in Holland. Out of a total of 676 merchant vessels of 2,396,910 tons under construction in the world, 280 vessels of 1,165,468 tons are building in Great Britain and Ireland.

Reverting to the construction of motorships, Germany has 55 ships of 324,155 tons building against 54 ships of 359,920 tons in Great Britain and Ireland; but Germany's tonnage of motorships is three times her tonnage of steamships, whereas in Great Britain the tonnage of motorships is 45 per cent of the steamer tonnage. Such yards as the Deutsche Werft at Hamburg specialize in the construction of these vessels and this is one of the reasons that enabled them to capture the British order referred to at the beginning of this article. Other reasons are lower wages, longer working hours and a close affiliation with connected industries, steelworks, and electrical plants.

#### Motorship Building Increases

The tonnage of second-hand vessels bought in Great Britain during the fourth quarter of 1924 was 305,120 at an average price per ton of £4 1s 3d (\$19.40). During the year 1924 the tonnage sold was 1,370,610 tons for £5,413,800 (\$25,877,900) or an average of about £4 (\$19.12) a ton.

In Great Britain and Ireland the firm of Harland and Wolff specialize in the building of motorships and they have vessels under construction for the Royal Mail and Union-Castle lines. The AORANGI, of 18,000 tons, which to date is the largest British motorship afloat, completed her maiden voy-

age to San Francisco successfully. This ship was built by the Fairfield company and her engines are of the Sulzer type. She is owned by the Union Steam Ship Co., New Zealand, who has several tankers and steamers under construction on the North-East coast of England. One steamer, the ALAUNIA of 14,000 tons gross tonnage, is being completed for the Cunard company. This vessel is to replace the first of that name which was lost during the war and embodies many striking features; she will burn oil and will be used specially for the Canadian service. The CORINTHIA, of 27,000 tons also for the Cunard line, was recently launched from Vickers' shipyard at Barrow.

### Headquarters Moved From New York to Mansfield

J. S. Tritle, manager of the merchandising department of the Westinghouse Electric & Mfg. Co. has been made general manager of the merchandising department of the company. Mr. Tritle has moved his headquarters, with his entire staff, from New York to Mansfield, O., from where he will direct all merchandising activities. As the majority of the



J. S. TRITLE

articles included in the merchandising department are produced at the Mansfield works, Mr. Tritle will have his headquarters in that city and the manufacturing, engineering and sales forces located at that point will report to him directly.

Heretofore, the engineering and manufacturing operations have been supervised by officers located at East Pittsburgh, while the sales activities have been directed from the merchandising headquarters in New York.





A demonstration of barge canal possibilities, showing motorcars being loaded on an ocean vessel at Gowanus Bay terminal, having been brought to this site in barge canal fleets operating from Buffalo to New York

# Why Not Use the Barge Canal-II

Railroads Must Place Cars at Terminals—Cheap Transportation Possible—  
Increase Effective Depth—Shippers Should Co-operate With Canal Carriers

BY WILFORD G. BARTENFELD, Canal Operator

THE railroads with one exception have offered canal carriers little co-operation. The exception was due to the fact that if the tonnage had not moved via the canal, it would have been routed over another line. In fact, so far as the writer knows, it has been impossible to get a single car placed at a barge canal terminal, for an exchange of freight, with the exception noted. This is not conducive to good business for common carriers, who carry freight for all, and is far from being equitable from any standpoint. What would happen if the railroads refused to do this in connection with the Great Lakes or ocean shipping? Is not the canal entitled to the same consideration as an important link in bringing about economical transportation. However, it has recently been decreed by the courts, that the rail lines must place cars at these terminals, and exchange freight with canal carriers. The next question is how soon cars will be placed at the terminals when called for, and what is to be an equitable division of freight between the canal and rail carriers. This may require another five or six years to adjust, unless energetic steps are taken to enforce an equitable division at once.

It is a mistaken idea, that tonnage can not be moved efficiently and profitably over the canal, in its present

state, and at rates which are considerably lower than rail rates. As a concrete example pig iron was carried at a profit from Buffalo to New York City, at a rate of \$2.50 per gross ton against a rail rate of \$4.90 per gross ton. Grain was carried at 6 cents per bushel, against a rail rate of 8.1 cents per bushel, between these points. Asphalt in drums was moved from Bayonne, N. J., to Lockport, N. Y., a distance of 475 miles, in 1000 ton lots. The canal carrier paying 25 cents per net ton loading charge in Bayonne, and an unloading and trucking charge of \$1 per net ton at destination. The consignee saved about a dollar a ton under this arrangement. This tonnage was all moved by the writer, and with old equipment. At least the same saving could be made, with new and modern equipment and about twice the tonnage could be moved during the season with equipment that could unload such tonnage in a few hours, instead of a few days. The vessels of the Standard Oil Co., McDougal Terminal Warehouse Co., Transmarine Corp. and smaller corporations and individuals are moving good tonnage, at a considerable saving to the shippers. It has been said, that at numerous times, the TWIN CITIES and TWIN PORTS have moved export cargoes from Duluth to aboard ship in New York har-

bor, in less time than it took similar cargo to be switched in Jersey City, lightered, and stowed aboard an ocean vessel in the port of New York.

From fifty to seventy thousand tons of rock salt a season, has been moving over the canal from Rochester to New York City. It moves generally in fleet loads, five barges to a fleet, making around 2250 net tons per fleet. On arrival in New York, the barges are consigned to various salt unloading docks. The methods employed are a clam shell bucket, or an ordinary bucket which has to be filled with scoopers shoveling in the hold. The average time of unloading a 500-ton barge is about two days and frequently longer. No night work is done, of course. Three to five days are therefore required, to unload a fleet of five 500-ton barges. Compare this with the unloading of 12,000 tons of iron ore at a lake dock within four hours. This is modern freight handling in New York. Yet, it is said the only type of boat that fits into the New York business is one of the Noah's ark type, and that such methods must be used for unloading. That is true, if a modern unloading rig could be used to unload such a barge, it would last about two trips, and then the bottom of the barge would be worn out. The future success of the canal will depend, on whether steel vessels are



constructed to handle such tonnage on an efficient and quick dispatch basis, in place of the present very obsolete type of barge and locally inefficient terminal conditions. A lake steamship held up from three to five days at each end of her route, could not operate at a profit.

The efficient operation of any canal fleet will depend on quick turn around. At the present time with most of the existing available canal equipment of poor design, it will be impossible to get quick turn around. However, a good profit can be made, and a substantial saving to the shippers effected, if economical power

what, but not to such an extent that it is impractical, as such conditions do not always exist. The state does considerable dredging each year to keep the channels open. Vessels should be able to load to at least 11 feet with safety. Such conditions are being met and controlled on the Ohio and Mississippi rivers, where there will be within two years time, a permanent 9 feet stage of water the entire year. It is not unreasonable to assume that these conditions could be permanently remedied in the New York state canal system, if the state would appropriate the money to do it.

Another handicap to canal naviga-

tion, they would not only save themselves money, but they would establish a great rate stabilizer, in the central and northeastern United States. Cargoes would not have to be discharged or loaded at the "bottle neck" as New York is termed. Any Atlantic coast port between Boston and the Jersey coast, would serve as an eastern terminus.

#### Mid-West Shippers Could Use Canal

There is much agitation among mid-west shippers about the proposed St. Lawrence waterway, which should be developed, but these same shippers are not using a waterway that is already provided, and which would reduce their transportation costs. It would be well for them to study this situation, and route freight over it, as is being done, in a small but efficient way now. The development of this canal is up to them, as well as to those who are adjacent to it, and it will not carry the desired amount of tonnage, unless modern equipment is built for it. Most of the shippers must be educated back to water borne transportation, as the railroads seem to have them pretty well educated along their particular lines. In fact, it has been hard work for some of the canal lines, to get any freight moving at all on the waterway, due to the attitude and in many cases ignorance, of the shippers, about this form of transportation. If shippers will investigate the transportation end of their business, as they do some of the other departments, and take the time to study out with the help of the canal carriers, how they can best use this waterway, and what type of equipment is required, it will not be long before the canal is floating a large volume of tonnage.

The railroads should not oppose canal transportation, as they would get a good portion of the business, during the five months of the year, in which the canal is closed. It is also a serious question with the railroads, as to how the inevitable in-



OLD TYPE ERIE CANAL BOATS IN NEW BARGE CANAL LOCK. NOTE STEAMER

such as the diesel is used, if overhead expenses are reduced to a minimum, and if efficient crews are placed on the old equipment.

#### Effective Canal Depth Only 9 Feet

A canal draft of over 9 feet is not safe for any large motorship, and not more than 9 feet 6 inches for a fleet of barges, as the streams which are feeders for the canal, bring in and deposit mud and silt into the canal channel. There is the full 12 feet depth of water in the rock cuts and over the lock sills. There is also considerable current through the canalized Mohawk river when rains are heavy. All of these conditions can be remedied by further improvements if the state would do it. These conditions do hinder navigation some-

tion is the bridge clearance of 15 feet 6 inches. This hinders the design of new equipment, but this condition can be met. The state should take steps toward increasing the height of such bridges, so that all bridges crossing the canal, would give a clear 35 feet clearance, on a normal water level.

As the canal system of New York state has already cost about \$200,000,000, it would be nothing short of criminal and a great waste of the people's money, not to keep it in the best possible condition, and to make the needed improvements, to take care of the modern floating equipment already built for it, and for that which will come. If the shippers in the middle west would wake up, and build proper equipment for the carriage of their



THE BOSTON SOCONY—A MODERN DIESEL PROPELLED OIL TANKER, ONE OF A FLEET OF EIGHT, IN USE ON BARGE CANAL WITH MARKED SUCCESS



crease in the volume of traffic will be met, under existing and future conditions, especially when it costs \$90,000 to finance one mile of track. There is no question but that other agencies of transportation will have to be developed, and what other agency is there but water, to handle it efficiently and economically.

If capital will spend one tenth of the amount they do for railroad equipment, and put it into proper canal

floating equipment, the canal would not only be floating capacity tonnage, but the returns on such an investment would be more than what the railroads are paying now, or ever will pay. What is needed not only on the New York State Barge canal, but on all of the inland waterways of the United States, is a proper exchange of freight, with the rail carriers, for the benefit of the public good. Each one carrying such

through tonnage as it is suited for.

It is up to the shippers and the transportation experts to see that such a waterway as the New York State Barge canal, is used for the benefit of every one. The state has done its share by providing the highway, and it is now time for private enterprise to see that the proper equipment is supplied and efficiently operated in accordance with all private and public requirements.

## Will Fight Diversion of Lake Water

**U**NDER the constitution has congress right to allow the city of Chicago to divert waters of Lake Michigan into its drainage canal? Every city on the Great Lakes and every state bordering these waters and the Dominion of Canada, are all vitally interested in the true answer to this question. At a conference held in Cleveland, May 13, of representatives of states bordering on the Great Lakes and several lake provinces of Canada, who comprise the Great Lakes Harbors' association, the decision was unanimously reached to start a joint suit in the United States courts to determine once for all the legality of congressional sanction in this case.

It will contend that neither congress nor the secretary of war has any legal authority under the commerce clause of the constitution to allow diversion of any water from the Great Lakes to the Mississippi river. It is said the action will be carried to the Supreme Court.

Recommendation of the conference for the suit followed the report of a committee composed of Attorneys General Daugherty of Michigan, Ekern of Wisconsin and Ottinger of New York, who made a study of the legal phases of the controversy.

"Any withdrawal of water from Lake Michigan and its diversion to another water system is illegal," was the finding of this committee.

If diversion of water to the canal to the amount sought by Chicago is allowed, it is declared, water levels in harbors and in the connecting river passages will be lowered as to constitute threat to the life of navigation on the lakes.

In addition to the decision to carry the fight to the courts, the conference agreed tentatively that the Great Lakes association assume direction of the opposition to water diversion by Chicago. An executive director will be selected who will give his entire time to organizing the opposition and

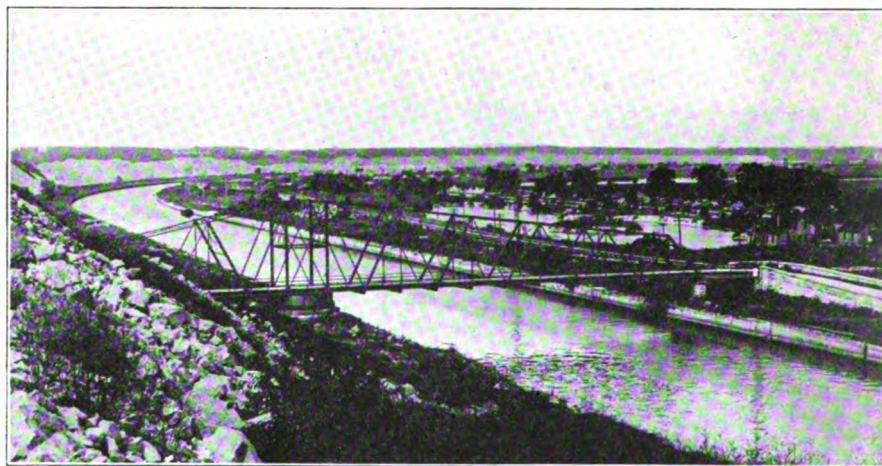
the prosecution of the legal campaign.

The disastrous effect on water routes through the abstraction of water from the lakes by the drainage canal district at Chicago, is emphasized by the experience this spring as navigation opened. The water of the lakes rises and falls through cycles of years, and at the present time has receded to the lowest stage on record. We have been for some years, and perhaps still are, in one of the falling cycles. In addition to this it is now conceded that there is a reduction of nearly half a foot everywhere below the locks at Sault Ste. Marie, through the permanent

the Canadian government a corresponding amount, and on which local expenditures in harbor improvement totals a great many millions.

The startling effect is that the modern and prevailing type of ship engaged in this commerce, loses carrying capacity to the extent of 80 to 100 tons per inch, or say from 500 to 600 tons for half a foot. Her cargo must be and is reduced to that extent, with practically the same costs of operation.

According to the statistics gathered by the war department and published as the second volume of the report of the chief of engineers, the Great Lakes route has reached normal ca-



ALONG THE MAIN CHANNEL OF THE DRAINAGE CANAL

withdrawal of water at Chicago. This effects commerce throughout the system below the Soo, where there are restricted depths in the connecting waters, in the shallow places at the ends of the lakes and in the straits of Mackinac, and in all the harbors on the American and Canadian sides, and in the approaches to important ports. It extends all the way down the St. Lawrence. It effects channels and navigation improvements, on which our own government has expended more than 100 million dollars, and

capacity in actual tons carried of 125,000,000 net tons. It is admittedly the greatest, the most used, and the cheapest transportation on a large scale in the world. The average haul is computed by the government at 837 miles, the longest distance being a thousand miles from Buffalo to Chicago at the head of Lake Michigan, and to Duluth at the head of Lake Superior.

In a normal year, three-fourths or more of the total freight is iron ore, stone for blast furnace use, and coal.



Grain from the northwest had an opening freight of 2 cents a bushel this season. Some is being taken at 1½ cents a bushel, for approximately a thousand miles. The ton-mile usually averages less than a mill. The ton-mile, owing to the long distance and cheap rates, comes pretty well up to 25 per cent of the ton-mile service of all the railroads in the United States, or to one-half ton mile service of all the roads east of the Mississippi and north of the Ohio river in the general region of the Great Lakes.

With our raw materials separated as they are by great distances, our industrial forwardness and development have been enormously advanced

by the fact of this great, open, free water course, improved, as it has been, by the general government, and of which advantage has been taken so as to make it into the greatest waterway in the world. But this is because of its reliability, freedom of movement, and the evolution of ships and channels, docks and terminals, so that raw materials for the manufacture of iron and steel may be assembled by this means of transportation at a cost to establish firmly the eminence of this country in manufacture. Of all iron and steel manufactured in this country, about 80 per cent is made from ores and stone produced in this section and transported by this

water route at a price so low as to put industrial America in the position it occupies.

And the producers of grain in the northwest and Canada also have the use of this cheap waterway to carry their product a thousand miles on its journey, of which they took advantage in the navigation season of 1924 to the extent of more than 500 million bushels.

It is the commodity which must bear the transportation as well as all other costs, and it goes without saying that the larger the unit of transportation, as in this case the cargo of the ship, the cheaper the cost and less burden upon the commodity.

## Condensed Reviews of Latest Books

*The Story of the Seaman* by John Forsyth Meigs; cloth, two volumes. 675 pages, 6½ x 9¼ inches; published by the J. B. Lippincott Co., and furnished by MARINE REVIEW for \$10 postpaid and in Europe by the Penton Publishing Co., Ltd., Caxton House, London, for 50 shillings net.

This valuable set of two volumes deals with the growth of commerce and as a result is timely. It is an account of the ways and appliances of seafarers and of ships from the earliest time until now and the high qualifications of the author well adapted him for discharging the responsible task of covering such a subject.

Mr. Meigs, born in 1848, was in the United States naval academy at the age of 14. He saw Civil war service, and in the years of naval and shipping decline which followed, had a thorough training, which fitted him among other tasks for writing a text book on ordnance and gunnery. He greatly aided in the development of gunnery practice methods. From 1895 to 1910 he was in charge of the ordnance department of the Bethlehem Steel Corp. From that time on, he studied maritime transport and the means of protecting it, resumed ordnance work during the Great war, and after the armistice resumed work on his book. He prepared this set, dying in 1924 just as the final proofs were being corrected.

His career thus embraced both the warrior and the merchant and manufacturer. He could thus envisage the need of protecting our international trade, which is frequently overlooked by those who nevertheless insist upon adequate security for the

pursuit of domestic trade everywhere.

In this series, Mr. Meigs fills a two-fold task, tracing the development of trade and sea traffic from its first halting stages till its present great importance, and likewise covering the protection of such traffic which is inseparable from its growth.

The reader can follow the development of shipbuilding and other maritime arts and the growth of naval warfare as required for trade's protection. The subject is handled not only thoroughly but fascinatingly, revealing the results of extensive research which has brought to light many facts little known or overlooked. The Phoenicians, the development of navigating science and instruments, the long boats, the Grecian wars, the round ships, warships, all are brought vividly before the eyes of the readers in story and picture.

The set will prove of real value to all those associated with the marine industry. While its mission may be found in its revelation of the need for international trade and for adequate protection of such trade, the complete character of the information given is well worth the study of those now associated with ships and shipping. The set is in reality the story of the merchant spreading civilization.

*Interaction Between Vessels* by R. B. Bodilly, Commander R. N., 132 pages, 5½ x 8½ inches; published by D. Van Nostrand Co., and furnished by MARINE REVIEW for \$3.50 net and in Europe by the Penton Publishing Co., Ltd., Caxton House, London for 17s 6d net.

Though some facts in regard to the

theory of interaction or suction between ships had been noted both in a practical way in actual instances of ships overhauling one another while running on approximately parallel courses in close proximity and also by means of model experiments arranged to simulate this condition, it was the now famous collision between the OLYMPIC and the HAWK which focused the attention of naval scientists on this interesting phenomenon.

Commander Bodilly has in his valuable book on the subject collected the more or less fragmentary and scattered information applying to interaction between ships. As the amount of information is small and as no study or experiment has reduced the effects noticed to an exact theory, there has been no attempt made to define these effects mathematically. The author has, however, contributed an interesting and practical treatise on the subject from which general deductions of sufficient accuracy can be drawn to serve as a guide to seamen in navigating their vessels in safety to themselves and others.

In the famous case of the OLYMPIC and HAWK the theory of interaction was quite exhaustively considered, the admiralty calling in among others Admiral D. W. Taylor of the United States navy as an expert witness. He had previous to and without reference to this case, made some very interesting and in a general way, conclusive model experiments on the interaction of passing ships. From the testimony presented at the trial both practical and theoretical, it was clearly established that as one vessel overhauls

another on closely parallel courses there is a varying force of attraction and repulsion set up at different relative positions as one vessel passes the other at a fair speed. A force is set up tending to sharply draw the bow of the vessel overhauled into contact with the overhauling vessel when the latter is in the vicinity of midway past the former.

Mr. Bodilly draws the general conclusions that low speed is a chief factor of safety where vessels are necessarily crowded together through lack of sea room. Also the course should be altered a little and as gradually as possible because sudden and violent alterations will set up corresponding changes in the interacting forces which may lead to disaster even though the speeds are moderate. The distance between ships when passing wherever possible should never be less than the length of the longer vessel. Altogether, the author has presented an important subject in an interesting and clear manner, making an important contribution to naval science.

*Screw Propellers, and Estimation of Power for Propulsion of Ships, Also Airship Propellers*, by Charles W. Dyson, in two volumes—Vol. I, 500 pages 6 x 9 inches, Vol. II plates 42 pages 10 x 16 inches, published by Simmons-Boardman Publishing Co. and furnished by MARINE REVIEW for \$15.00 net and in Europe by the Penton Publishing Co., Ltd., Caxton House, London, for £3 15s net.

Admiral Dyson's work on propellers is widely known. The present edition does not therefore come before the marine engineering fraternity as the new work of an obscure author. The first edition appeared in 1913 and the second in 1918. This, the third edition, is the final compilation of the results arrived at in the author's previous edition and a great amount of later work and practical propeller performance with which he has come in contact in his many years devoted to design of propellers.

Essentially this work presents practical propeller design from data obtained on trials of full sized vessels. Characteristics of different types of hulls are discussed in their relation to propeller design in a general way. Methods of determining the required power, in indicated shaft, thrust and effective horsepower are treated. The history of the propeller is reviewed as is also briefly methods of propeller design by Taylor and Barnaby.

The author quotes Sir Archibald Denny's statement in a paper on Model Tank Experiments on Naval

Propellers read in 1915 that "in the future the rules for correct designing of propellers should be derived from data carefully taken from the trials of smooth bottom vessels carefully run over accurately measured deep water courses," as outlining exactly the plan which he has followed in all of his propeller work since 1901.

Following this method Admiral Dyson has worked out a chart of basic conditions as he calls them, the curves on which are derived from actual performances of vessels having hulls of such forms that the propulsive coefficients realized were the maximum for the particular value of projected area ratio of each particular propeller. Formulas have been worked out for the application of these and other curves to the design of propellers to meet any given conditions. The subject of cavitation is fully treated. Design by method of comparison as applied to the author's method is also taken up. Characterization of blades and strength is touched upon. A great many practical performances of propellers are analyzed. Full particulars on many full sized propellers are given in Volume II.

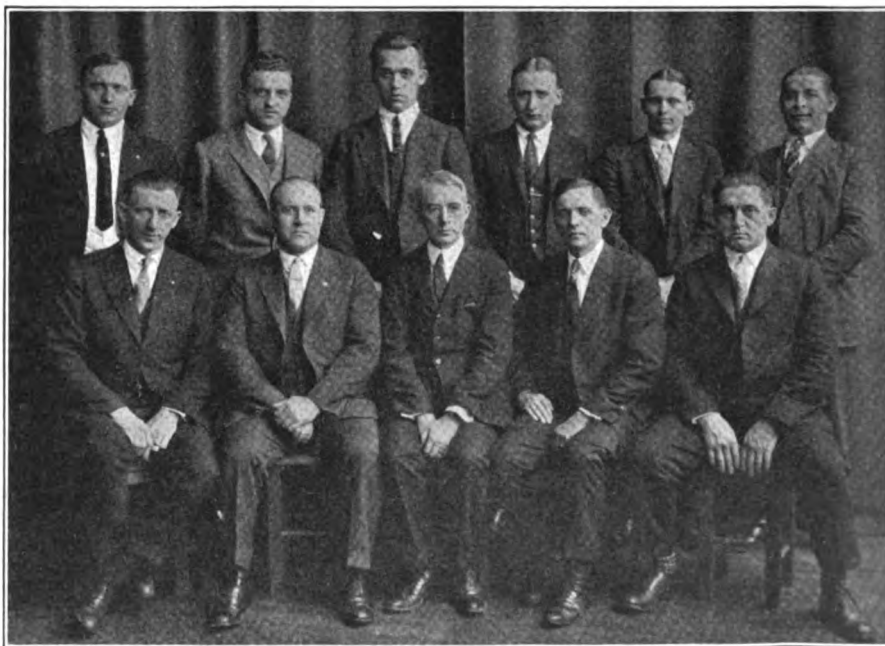
The naval architect, marine engineer and student will find this work of great practical value and cannot be fully informed upon the propeller problem without reference to it. This work is of great value to the art of ship design by emphasizing the importance of propeller efficiency.

## Bradley Engineers Visit Large Electrical Plants

Preparedness is always the part of wisdom and now that the Bradley Transportation Co., is soon to add a large turbo electric ship to its fleet the company is to be commended for sending a group of its ship engineer personnel to the Schenectady and Lynn plants of the General Electric Co. and to New York.

Nine days were spent in Schenectady, during which time the visitors attended daily lectures on the design and manufacture of marine propulsion and auxiliary machinery. Frequent inspection trips were made to the shops where apparatus in various stages of manufacture was seen. From Schenectady the party went to the River works at Lynn, where three days were devoted to an inspection of the plant, particularly the shops where turbines, generators, motors, metal gears and other marine apparatus are being built. Engineers of the turbine and generator departments delivered lectures on the design of Lynn type machines. Three days were then spent in New York and observations made of the practical operation of turbine-electric machinery aboard the New York-Staten Island municipal ferry boats.

Before leaving for home the Bradley company engineers were guests of William Bunker, superintendent of the United States lines at Hoboken.



ENGINEERS OF BRADLEY TRANSPORTATION CO. VISIT GENERAL ELECTRIC CO.  
SITTING—LEFT TO RIGHT: C. E. ARTHUR URDAL, C. E. THOMAS SUTTLE, E. O. HUNT, G-E CO., C. E. JOHN SPARRE, C. E. GUY LA BOUNTY. STANDING—ASST. ENGINEERS LIEF URDAL, CHARLES FREDERICKS, DANIEL MACINTYRE, JOHN ANDERSON, RAYMOND BUEHLER AND FREDERICK HAYDEN



## Freighter Completed at Collingwood, Ont.

The steamship ROBERT J BUCK one of three similar vessels ordered by the Geo. Hall Coal & Shipping Corp., Montreal, has recently been completed by the Collingwood Shipbuilding Co., Ltd., Ont. The keel was laid on Jan. 31, 1925 and the launching with machinery on board and vessel almost completed took place on May 9.

In construction the ROBERT J. BUCK is of the raised quarter deck type and of full Welland canal size. She has been built under special survey and to the highest class of the British Corporation society for service on the

engineer's room and dining room are tastefully panelled in oak. The vessel is fitted with electric light, and with a refrigerating plant for ship's stores. The ballast pumping equipment is of large capacity for rapidly filling or emptying the various ballast tanks.

The vessel is propelled by one triple expansion surface condensing engine having cylinders 15½-inch, 26-inch and 44-inch diameter with a stroke of 26-inch. Steam is supplied by two Scotch return tubular boilers 12 feet 6 inches in diameter by 10 feet 10 inches long, working under natural draught at a pressure of 195 pounds per square inch under normal load.

## T. W. Robinson Launched at Lorain Yard

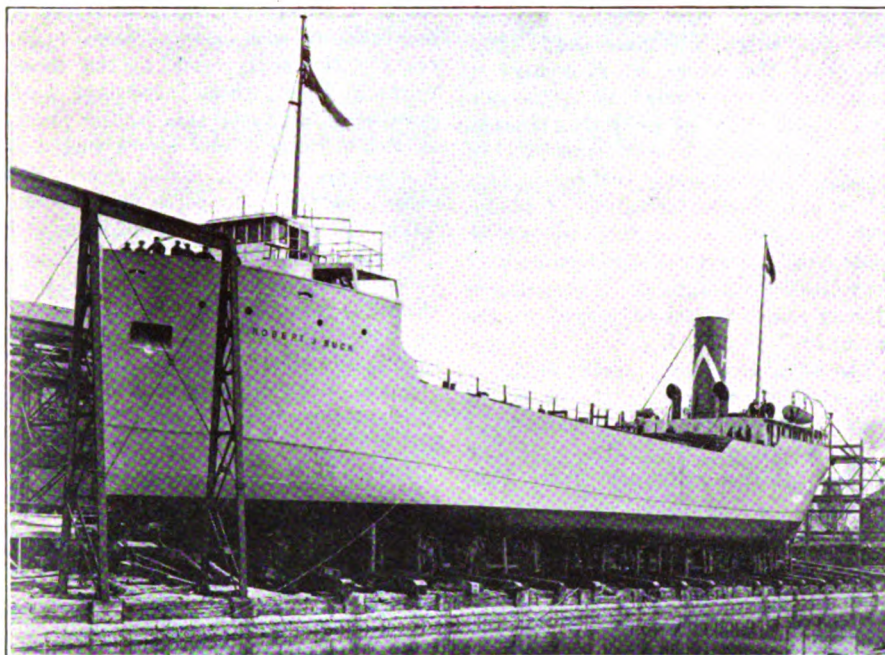
On April 25 the T. W. ROBINSON, a lake bulk freighter building for the Bradley Transportation Co., Rogers City, Mich., was successfully launched at the Lorain, O., yard of the American Shipbuilding Co. The ROBINSON is a self unloader, 586 feet in length overall, 60 feet beam, 32 feet deep and will have a turbo electric main drive of 3000 horsepower furnished by the General Electric Co. Electric power from the main generating plant will be used to drive the self unloading machinery. This is the first time it is said that a large lake bulk freighter has been equipped with an electric main drive.

She is the largest vessel of her class and is 36 feet longer and will have three more hatches than the steamer B. H. TAYLOR of the Bradley fleet. Her capacity will be about 11,000 tons of lime stone and she can unload a cargo in about five hours. The design conforms to that of the other large self unloaders now in operation. The exterior of the vessel proper is of the usual lake type; except for the great swinging discharge boom and the heavy tripod foremast construction for elevating and supporting it.

The principal novelty introduced in this vessel is the adoption of electrical propulsion. As there had to be generating sets of considerable capacity to supply current for running the heavy motors used in connection with unloading apparatus it was decided to employ an electric motor for driving the propeller and a large turbine generator is installed to provide the necessary current. The power plant from coal pile to its application at the propeller is of a design entirely without precedent in Great Lakes practice. The coal is handled by machinery from bunkers to the furnace doors and is fed to the furnaces by mechanical stokers.

In conformity with the general scheme of power distribution, the auxiliary machinery on deck in the forward end of the ship, such as deck engines, hatch engines, boom swinging engines and windlass will all be electrically operated. The galley equipment will also be electrified, so that in so far as it can be economically electricity will be applied.

The ROBINSON will be completed and ready for business about July 10. Capt. William J. MacLean, who was on the steamer B. H. TAYLOR last season, will bring her out, and H. B. Moore will be in charge as engineer.



WELLAND CANAL SIZE LAKE FREIGHTER ROBERT J. BUCK LAUNCHED AT COLLINGWOOD, ONT., MAY 9, AND RECENTLY COMPLETED

Great Lakes and Gulf of St. Lawrence. Structural strength is provided considerably in excess of that required by the classification society, to provide against the severe local stresses to which vessels are subjected in the canal trade.

The principal particulars are: length overall 259 feet 7 inches, length between perpendiculars 252 feet, breadth molded 43 feet, depth molded 19 feet, raised quarter deck 3 feet, deadweight on canal draught about 2400 long tons. The vessel has two cargo holds each served by three hatches. One of the hatches to each hold is made extra large to facilitate handling steel cargoes. Four mooring winches are fitted, one on forecastle, one on upper deck forward, and two on raised quarter deck.

The layout of crews' accommodations, are commodious, and in accordance with the usual practice for lake vessels. The captain's quarters, chief

## Marine Dinner a Success

The Annual Spring banquet of the American Marine association held at the Waldorf Astoria, New York, on May 7, was very well attended. J. Walter Drake, assistant secretary of commerce was the guest of honor and the principle speaker. Edward A. Filene, Boston merchant also addressed the meeting. In a lighter vein but nevertheless often hitting home with keen thrusts, a mythical character, Senator Josiah Bulliwer, completed the program of speakers. Capt. C. A. McAllister, vice president of the American Bureau of Shipping acted as toastmaster with notable success. His sallies were good and they were greatly appreciated.

W. L. Trammell has been appointed general freight agent of the Southern Pacific Steamship Lines, with office at 165 Broadway, New York.



# Panama Liner Is Reconstructed

Passenger Accommodations of the S.S. Ancon Increased to 250—  
Space for 125 in the Crew—Large Cold Storage Rooms Added

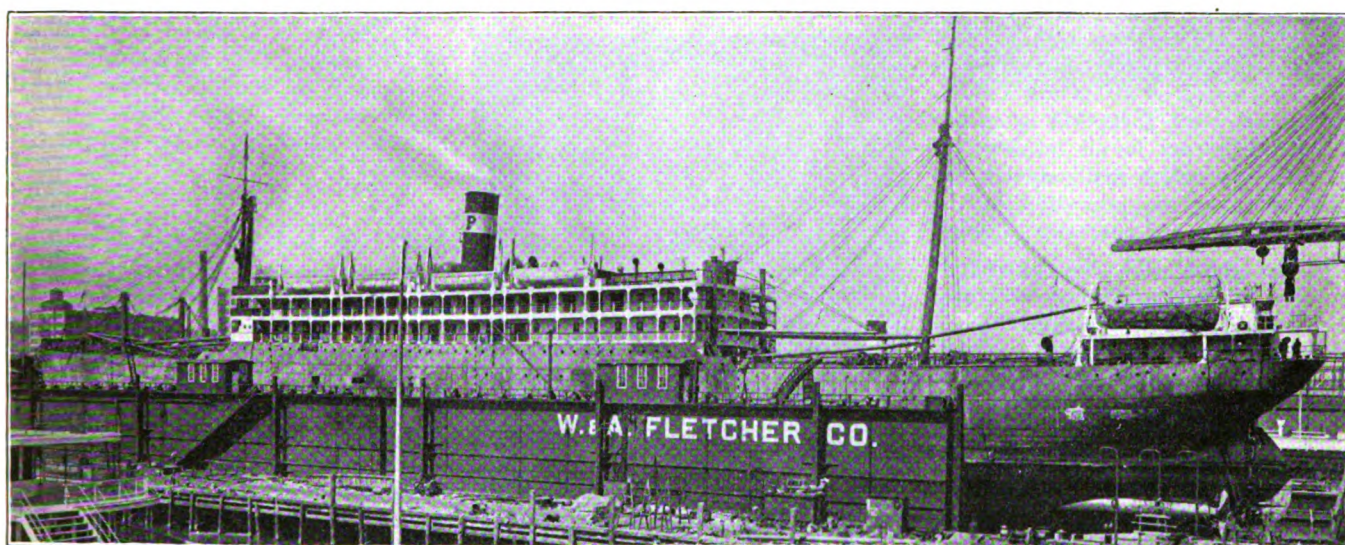
**W**HEN the United States as a national enterprise undertook the work of completing the Panama canal begun by a private French company headed by the famous engineer Ferdinand De Lesseps, it was found necessary under the circumstances for the government to take over the Panama railroad across the Isthmus and to establish a steamship line to the states in order to maintain communications and to carry a

5 inches in length, 58 feet in beam, 28 feet 9 inches in depth and a gross tonnage of 9315 and was built as the Shawmut in 1902 at the Maryland Steel Co., Sparrows Point, Md. A few years ago she was converted from coal to an oil burner and generally reconditioned with the addition of some passenger accommodations.

In the fall of 1924 serious consideration was given to the question of replacing this vessel which was now

suitable for the service. The contract was therefore awarded to W. & A. Fletcher Co., Hoboken, N. J., the lowest bidder. Work commenced during October last year and the new ANCON was delivered to the owners May 1 this year.

The general clause of the specification called for a vessel reconstructed in accordance with the most approved methods and fitted in all respects to carry approximately 250 passengers,



THE S. S. ANCON IN DRYDOCK AFTER ELABORATE REBUILDING—ONE ADDITIONAL PASSENGER DECK ADDED FULL LENGTH OF BRIDGE SPACE—WILL RUN BETWEEN NEW YORK AND PANAMA CANAL—ESPECIALLY ADAPTED FOR TROPICS

major part of the vast supplies and stores needed to carry out the great work. The railroad and the new steamship line both being owned by the government were combined into one corporation and called the Panama Railroad & Steamship Co. The railroad and the steamship lines are still owned and operated by the government. It may be said incidentally that they have both been successfully operated by the army.

To begin with, the main service of the Panama line consisted in carrying workers and troops, to and from Panama, and cement, steel, machinery, supplies and provisions needed in the construction of the canal. The nature of this service has of course changed a great deal. Supplies for the canal and other cargo to and from the Isthmus are of course carried, but passenger travel has increased.

The steamship ANCON of the Panama line, a large freighter originally with a few passenger accommodations is a steel twin screw vessel 489 feet

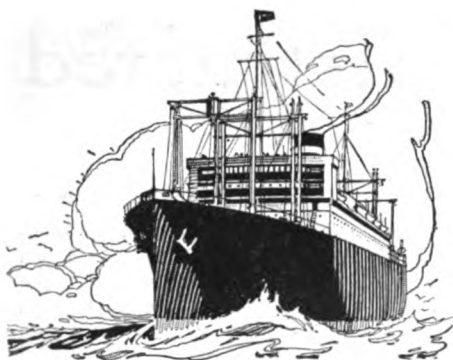
obsolete and inadequate particularly in the matter of passenger accommodations, with a modern high class combination passenger and cargo liner. It was found however that to replace her on an elaborate scale would involve the expenditure of around \$2,000,000. In view of the fact that the hull and machinery were still in excellent condition and that the boilers had been renewed and that she had already been converted to burn oil, it was decided to draw up plans and specifications to increase her passenger accommodations to 250 and crews quarters for 125, to provide refrigerating machinery and cold storage space of approximately 40,000 cubic feet and an air cooled space of 20,000 cubic feet.

This elaborate reconditioning, the owners supplying the two 20 tons refrigerating machines, it was found would cost \$500,000. Considering other expenses this meant a very substantial saving over a new ship, and the rebuilt vessel would be entirely

125 crew, cargo and cold storage. This sums up briefly the purpose of the reconstruction. The boilers were scaled cleaned and lagged, new liners were fitted in the high pressure cylinders of both engines and also new pistons. Four valve chests were bored out and a new piston rod furnished. A new hub was made and fitted for one propeller. However the machinery work was of a comparatively minor character. The big job was in the increased passenger accommodations.

From the accompanying illustration showing the ANCON in dry dock after the completion of most of the work it will be noted that an additional deck was constructed throughout the entire length of the bridge space. To ascertain the effect of this extra deck in regard to top heaviness, the specifications called for the heeling of the vessel at the completion of repairs; to determine the center of gravity and stability of the equipped ship in light and loaded conditions. Preliminary calculations showed proper stability.





## Marine Exposition in New York—Nov. 9-14

Marine week next Nov. 9-14 will bring to New York City every important group of marine men. In the first place the marine exposition, to be held at this time in the Two Hundred and Twelfth Anti-Aircraft Regiment armory at Sixty-second street and Columbus avenue, New York, will bring out new developments in all branches of the industry which will attract the notice of everyone interested in the repairs building and operation of ships.

Among those who have arranged conferences are the Society of Naval Architects and Marine Engineers, the American Marine Standards committee, the American Society of Marine Designers, the American Steamship Owners' association, the Council of American Shipbuilders, the National Marine Engineer's Beneficial association, the Ocean Association of Marine Engineers, the Port of New York Authority, the Neptune Association of Masters and Mates, the Maritime Association of New York, the New York Tow Boat exchange, the Propeller club, the United States Ship Operators' association and others.

Attendance at previous marine shows has averaged more than 25,000, and a still large number is expected at the next event. More than 70 per cent of the space at the Two Hundred and Twelfth Anti-Aircraft armory, where the show will be held, has already been sold.

P. A. Sensenig, chairman of the exhibits committee, said that there will be discussions of marine problems at the meetings, which will be held several weeks before congress convenes in Washington.

Louis M. Ross, who has been traffic representative for the Dollar Line in Boston, has resigned to become associated with the car service division of the American Railway association, which will open offices in Boston at 131 State street.

## Elmer A. Sperry Honored

On April 30 word was received that Elmer Ambrose Sperry, inventor of the gyro-compass, had been elected to life membership in the National Academy of Science, Washington, D. C. This well deserved recognition represents one of the highest honors that can be conferred on a scientist in our country. Membership in this organization is limited in number and at the present time consists of about 100. Election to the Academy according to a long established custom comes to the recipient without prior knowledge and is awarded for distinguished accomplishments in science or art which contribute to the better existence of the people of the world. Including Mr. Sperry, only 17 engi-



ELMER A. SPERRY

neers have been so signally honored.

Founded during the civil war by an act of congress signed by President Lincoln, the National Academy of Science served as a means of bringing the scientific strength of the nation to the aid of the government. Ever since it has faithfully fulfilled the purposes of its origin. During the late war this body received recognition by President Wilson in an executive order continuing the National Research Council which it had organized to help prosecute the war to a successful conclusion.

Though not a marine man in the ordinary meaning of that term, no name is more generally known on board ship and in maritime circles than that of Elmer A. Sperry through his invention and perfection of the gyro-compass, by means of which the true course of a ship may be noted

without fear of disturbing magnetic influences. Mr. Sperry has been extraordinarily active throughout his life from early boyhood to the present time and has a most remarkable record of accomplishment in several branches of engineering. It is said that he has over 400 patents to his credit. Many of these inventions have been of unique and startling promise, since his first arc light, made in his early youth, up to his present successful work in navigation. Of these the outstanding are, the high intensity arc light making possible the world's largest searchlight with its billions of candle power, the gyro-stabilizer for reducing the rolling of ships, and the gyro-compass as an instrument of precision for determining the true course in navigation.

Mr. Sperry is president of the Sperry Gyroscope Co., Brooklyn, N. Y., a member of the Society of Naval Architects and Marine Engineers and of many other important engineering societies.

## George J. Robinson Retires

The retirement from active duty of George J. Robinson, president of the Robins Dry Dock & Repair Co., on account of ill health was announced recently by the Todd Shipyards Corp. of which the Robins company is a subsidiary.

Mr. Robinson has been actively associated with William H. Todd, president of the Todd Shipyards Corp. for



GEORGE J. ROBINSON

the past thirty years and is one of the best know ship repair men in the country. During that period he rose from rivet passer boy to be



president of the yard. Mr. Todd was president of this company and on his retirement to become chairman of the board of the Todd Shipyards Corp. Mr. Robinson was elected president, an ambition he had shared with Mr. Todd when both men wore overalls and worked side by side. In fact "Robins" or "Erie Basin" as the yard is known to shipmasters all over the world is synonymous with Billy Todd and George Robinson, two ship repair men who were inseparable pals and who shared the hard knocks of earlier years as well as the prosperity with which their efforts were rewarded in later life. He will remain a director.

### Engineer Goes to Japan on Special Mission

Francis Hodgkinson, chief engineer of the South Philadelphia works, Westinghouse Electric & Mfg. Co., has left for Japan on a special mission in which he will have extensive contact with leading Japanese engineers.

Recognized as one of the foremost steam turbine engineers, Mr. Hodgkinson will consult with and advise his Japanese conferees who at the present time are very much interested in steam generation of electric power. A law has been passed in Japan providing that all hydro-electric plants hereafter must provide at least 10 per cent of their power output through steam generation.

Another feature of Mr. Hodgkinson's trip is the fact that he will act as a formal messenger of the American Society of Mechanical Engineers,



FRANCIS HODGKINSON

the president of which, Dr. W. F. Durand, has prepared messages of greeting and good will to the three big engineering bodies of Japan, among which is the Society of Naval Architects and Marine Engineers.

### W. T. Hayes Joins Vacuum Oil Co.

William T. Hayes, formerly port engineer at New York for the United States shipping board, has joined the Vacuum Oil Co. as special engineer attached to the marine sales department. Mr. Hayes who has become well and popularly known in his capacity with the shipping board, comes originally from the west coast. He was born in California and much of an unusually wide experience was gained there.

After receiving a technical education, he shipped as an oiler, rapidly working his way up until he became a chief engineer, licensed for all classes of vessels. He served as chief engineer in the ably managed fleets



WILLIAM T. HAYES

of the Pacific Coast Steamship Co., and the American-Hawaiian Co. Mr. Hayes' record as an engineer attracted the attention of the Standard Oil Co. of California, and in 1914 he entered their employ as marine sales engineer.

In 1918 Mr. Hayes resigned from his position and enlisted in the United States navy, being assigned at once to the S. S. WEST HOBOMOC. Following the war, he entered the employ of the United States shipping board and was stationed at Hog Island as guarantee chief engineer. In 1920 Mr. Hayes was promoted to assistant port engineer at New York, becoming port engineer in 1921. He will make his headquarters at the Vacuum Oil Co., offices at 61 Broadway, New York City, in his new position.



DELOS W. COOKE

### Cunard Director Retires

Delos W. Cooke recently resigned as associate director of the Cunard Steamship Co. Ltd., is 61 years of age, does not look more than 50 and is in vigorous health. Why did he resign? His own answer to this question given at the time is probably the most original ever offered. It was in effect that he wished to devote the remainder of his years in getting acquainted with his wife and family. Mr. Cooke said in part:

"Big business these days, demands 24 hours of one's time. I can say from experience that it is utterly impossible for a man in big business to devote the necessary time to his job and continue to run his home as it should be run.

"We of big business scarcely know our wives. It's just one conference after another and you have to keep business on your mind every minute. Therefore the only alternative, if one wants to get acquainted with one's wife and family, is to resign. That's why I've given up my directorship.

"The average person looks upon the man of big business only in the very pleasant light of riches and Rolls Royces. The general idea seems to be that he and the niblick are inseparable."

At the age of 14 Cooke started working as a clerk in a country store in Storm Lake, Ia., for \$14 a month. His next job was telegraph operator at \$40 per month and from this position he rose to the vice presidency of the Erie railroad. In 1918 he was elected associate director of the Cunard Steamship Co. Ltd.



# Late Decisions in Maritime Law

## Legal Tips for Shipowners and Officers

Specially Compiled for Marine Review

By Harry Bowne Skillman

Attorney at Law

UNDER section 20 of the merchant marine act, as amended, a seaman injured in the service may "at his election" maintain an action for damages at law, but where he brings suit in admiralty, and recovers for maintenance and care, the decree is a bar to subsequent action at law for same injury.—*Phillips v. Baltimore Steamship Co.*, 295 *Federal Reporter* 323.

It was held in the case of *ANAHUAC*, 295 *Federal Reporter* 346, that where a government vessel and others co-operate in a salvage service, the proper way of making an award to the latter is to fix the value of the entire service and deduct the share earned by the government ship.

"Where salvors in good faith render meritorious services in the rescue of a vessel in distress, they cannot be summarily deprived of their just reward because a more powerful assistant may come along, and it be sought to escape the payment to the first on the scene by dealing only with the last. But those services must be meritorious. In a salvage case they must in some degree have contributed to the salvaging. But while the party in distress may not disregard the service done in his behalf on his appeal, by summarily dismissing those who have labored for him, he is not bound to allow an incapable would-be salvor to indefinitely continue his vain attempts simply because that salvor was the first to arrive on the scene and begin work. There must be reason in all things. If after full and fair opportunity the first comer is not successful, and evidences no reasonable certainty of success, the party to be salvaged is not bound to continue his services. If a better equipped, more capable, and efficient worker comes along, the party to be salvaged would then be entirely justified in letting the first go, and availing himself of the second."—*SANTA ROSA*, 295 *Federal Reporter* 350.

When a registered vessel is sold to a resident of another state, it ceases to be a vessel of the United States until registered anew at the port of the new owner and a mortgage back for purchase money, to have the status of a valid preferred mortgage, under section 30 of the ship mortgage act of 1920, must be recorded in the office of the collector at the new port of registry.—*LINCOLN LAND*, 295 *Federal Reporter* 358.

The provision of section 30 of the ship mortgage act of 1920, requiring the collector of customs to endorse a

preferred mortgage on the ship's documents, is directory and a mortgage duly recorded in the office of the collector does not lose its status as a preferred mortgage because of his failure to make such endorsement.—*NORTHERN STAR*, 295 *Federal Reporter* 366.

The Emergency Fleet Corp. is not personally liable on a contract for ship construction made as authorized agent of the President of the United States, under the war powers conferred on him by the act of June 15, 1917, and where the contract expressly recites that it is made by the corporation representing the United States as "owner," and that the work is to be done for such owner, which shall pay the compensation therefor.—*Astoria Marine Iron Works v. United States Shipping Board Emergency Fleet Corp.*, 295 *Federal Reporter* 415.

Fishermen, who shipped for the fishing season under an oral contract for a lay, and who were wrongfully discharged, are entitled to recover the damages sustained by reason of such discharge, measured by the difference between their share on the lay and their net earnings during the remainder of the season.—*AMERICAN BEAUTY*, 295 *Federal Reporter* 513.

The experienced master of a tug, who on coming into a slip during a gale, finding that a number of the barges which had been moored to a pier in tiers had broken loose, replaced and secured them with new lines, was not chargeable with negligence, it was held in the case of *NEW YORK CENTRAL*, No. 12, 295 *Federal Reporter* 522, which rendered the tug liable for injuries resulting from the subsequent parting of such lines.

Mere delay in the surrender of a vessel after collision may not be treated as an assumption of the liability of the vessel, and forfeiture of right to limitation of liability vessel has suffered, it was declared in the case of *WEST HARTLAND*, 295 *Federal Reporter* 547, where the vessel has suffered no deterioration in the meantime, and the full value of the owner's interest at the date of collision is surrendered. It was further held that the fact that one of two vessels is the privileged vessel does not excuse her from observing the rules, or from other precautions to avoid collision proper under the circumstances.

The duty to "cure" which a ship owes to an injured seaman does not mean that the ship becomes an insur-

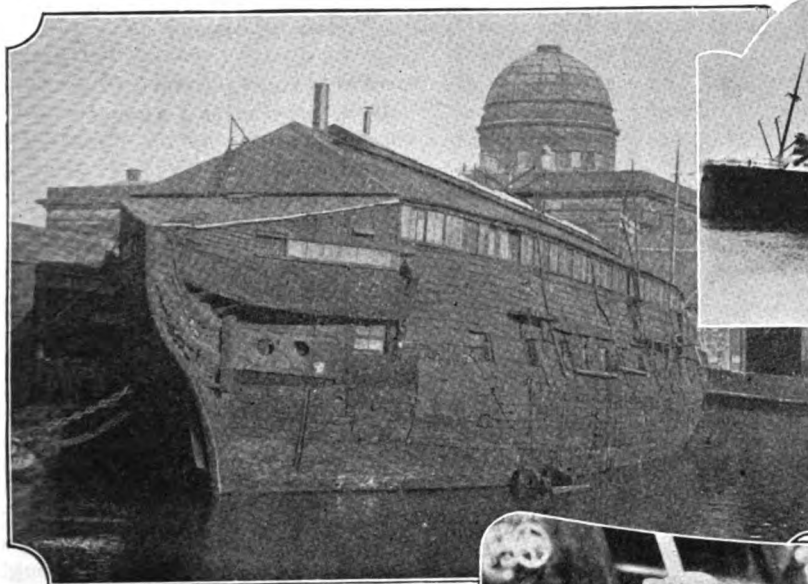
er; it means "proper care of the injured seaman and not a positive cure which may be impossible." This duty has been limited by the words, "at least so far as the ordinary medical means extend." Also, the ordinary medical assistance and treatment in cases of injury and acute diseases for a reasonable time.—*POCHASSET*, 295 *Federal Reporter* 6.

Where a pantryman on a ship had been brutally assaulted, and there was a possibility that his nose was fractured, but whether it was in fact could not be detected by an ordinary examination, the failure of the ship's physician to send him to a hospital for expert treatment constituted an error of judgment, for which the shipowner would not be liable, it was decided in the case of *Geistlinger v. International Mercantile Marine Co.*, 295 *Federal Reporter* 176. Such pantryman, however, was entitled to maintenance and cure for a reasonable time after the voyage terminated.

Where a leakage of 11 per centum of a cargo of oil was due to the fact that the oil tanks were defective, the vessel was unseaworthy. \* \* \* A clause in a charter of a tank steamer for transportation of a cargo of oil that "the steamer is not to be accountable for leakage" modifies the general warranty of seaworthiness and relieves the steamer from liability for leakage. \* \* \* A charter is not a "bill of lading or shipping document," within sections 1 and 2 of the Harter act, prohibiting insertion therein any clause limiting liability for negligence, and that act has no application to a charter party giving to the charterer the full capacity of the ship; in such case, the owner is not a common carrier, but a bailee to transport as a private carrier for hire. \* \* \* A bill of lading issued by a master to a charterer, who has contracted for full capacity of the ship, is merely a receipt, and not a contract; the master is not authorized to change or modify the charter by a bill of lading.—*G. R. CROWE*, 294 *Federal Reporter* 506.

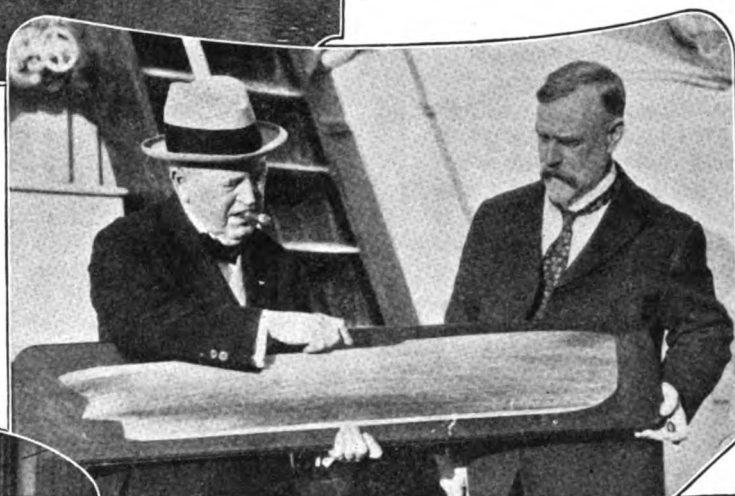
It was decided in the case of *United States v. Voelp*, 296 *Federal Reporter* 119, that the furnisher of repairs or necessities to a vessel in order of a conditional purchaser is not entitled to a lien as against the seller, where the agreement of sale forbids the creation of a lien, and where reasonably diligent inquiry would have given knowledge of the agreement and its terms.

# Latest Marine News in Pictures

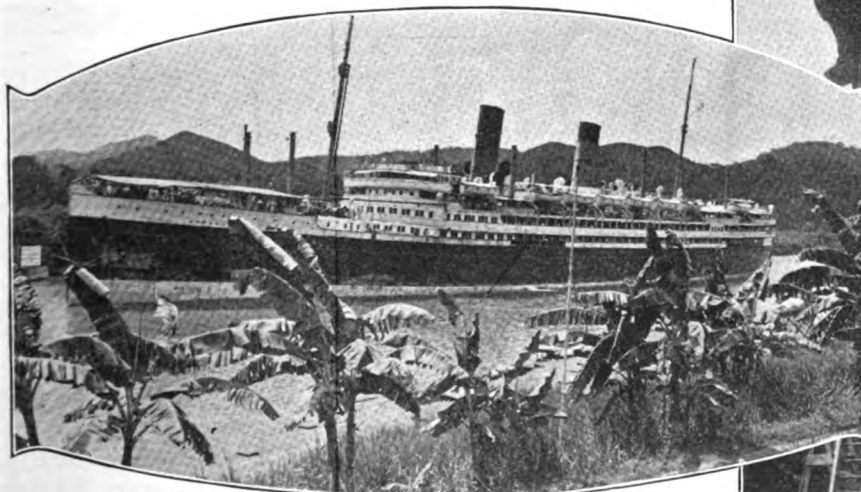


H. M. S. Eaglet, built in 1804, comparable in age with our own "Old Ironsides." For many years used as a training ship. Now to be condemned and junked

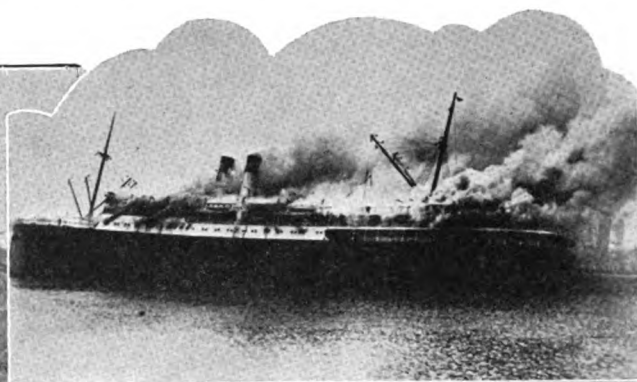
Seattle's successful ship owner James Griffiths showing Capt. J. A. Hailey of the Empress of Australia, a model of his new yacht to be built, of teak, in China



El Alba, with her entire bow crushed as if made of paper. Repaired in Morse Drydock in 22 days



Aorangi, world's largest motorship in transit Panama



New \$2,500,000 passenger liner Bienville recently commissioned, nearly destroyed by fire at New Orleans March 19. The fire started in the living quarters, origin unknown. No lives lost





# Equipment Used Afloat, Ashore

## A New Type of Balanced Piston Ring—Wire That Does Not Unstrand —Powerful English Lifeboat—Electric Motor Driven Valve Refacer

**T**O ELIMINATE the commonly known defects of the average piston ring in order to make an improved ring, which would give longer service and require less care and which would work in itself, independent of additional contrivances, such as springs, John L. Gibson, an engineer, has devised a new type of ring and piston, patent for which is now pending.

The main feature of this ring is that it does not depend on springs, for its tightness, but it is completely balanced and gives the correct pressure against the cylinder walls, by the pressure of whatever element may be introduced into the cylinder, be it steam, water, oil, ammonia or gas. Many rings of special design in two or more parts have been developed and used with different degrees of success. The construction of this ring differs from the rest in so far as it is thoroughly balanced by the pressure of the medium used.

The balancing is arrived at in the following manner: A series of ports on the top and bottom sides of piston

of these rings. The center chimes are cut away to receive tongue pieces, which are so constructed as to make up for the removed parts and so make the chimes continuous, whether the rings are in two or more segments as

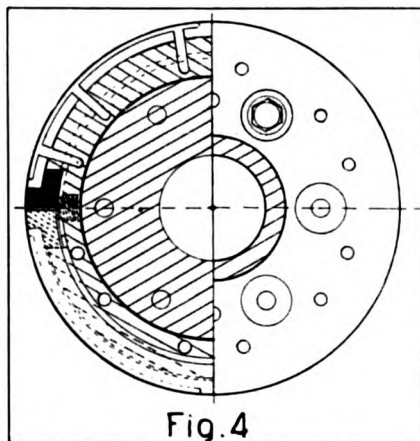


FIG. 4—PLAN OF PISTON AND RINGS

conditions warrant. This will be seen by reference to Figs. 1, 2 and 3. The segmental part of the rings overlap the tongue pieces thus making a seal. The tongue pieces are equipped with a small spring on the back to keep same pressed up against the inner bedded surfaces of the ring.

It will be seen that there is no pressure admitted to inside top and bottom of these rings, pressure only being used between center part of chime and corresponding back of rings. A series of holes through each seg-

ment of ring communicating to an outer groove on said segments of the ring, which, due to the difference of outside and inside areas causes a balancing effect which insures long life and the least amount of friction and wear. In this way the continuous inconvenience of constant watchfulness, removal and changing of rings is eliminated.

## Wire Cable Developed—Will Not Unstrand

What is stated to be the first basic change in wire rope for marine and shipping use in more than a century of marine cable history has been brought out by the American Cable Co. in the manufacture of a new wire rope. The new principle developed in the making of the rope is the "preforming" of wires and strands to the exact shape they must have to fit correctly in the completed product. The rope is being made in Lang and regular lays up to one inch in diameter and engineers concerned with its development for general marine purposes express satisfaction with its performance under exacting and strenuous tests.

It is now being used extensively with special fittings in the rigging of coast patrol boats built for the United States government. The new rope is not only designed for use on board ship as part of its equipment but is also adaptable as a reliable rope for

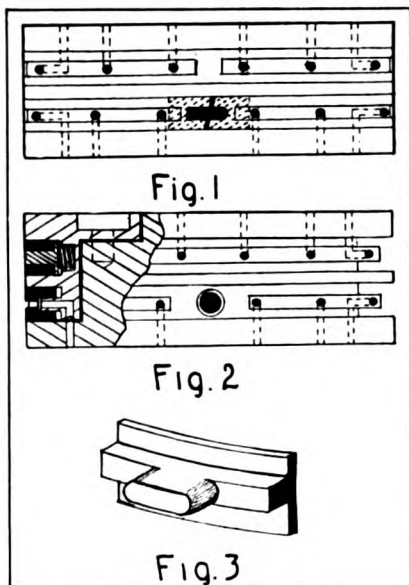
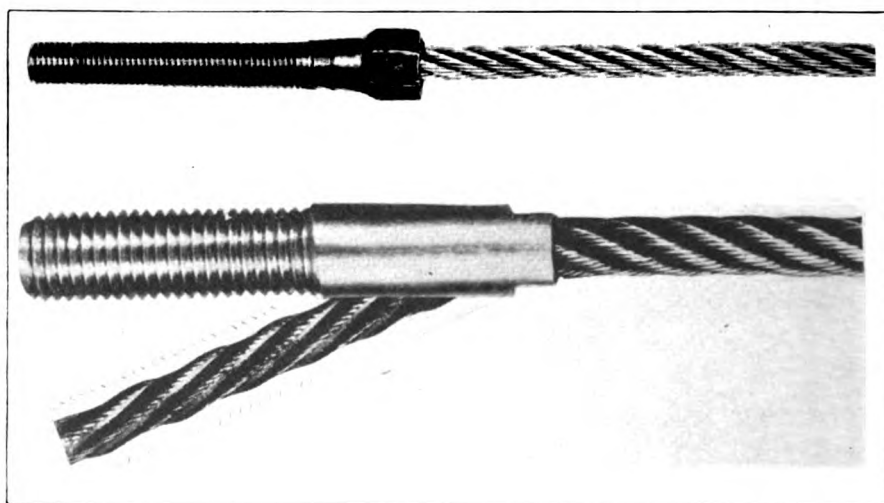


FIG. 1—ENTIRE PISTON ASSEMBLED  
FIG. 2—SECTION SHOWING RINGS IN PLACE—PART SECTION SHOWING RINGS REMOVED FOR INSERTION OF TONGUE PIECE  
FIG. 3—ENLARGED SKETCH OF TONGUE PIECE

as indicated in Fig. 1 admit the full pressure to their respective rings and to both the back and front grooves



UPPER—HEXAGON FITTING ADAPTING WIRE ROPE FOR USE IN PLACE OF RODS FOR VARIOUS PURPOSES  
LOWER—A WIRE FITTING SPLIT OPEN TO SHOW HOW METAL GRIPS STRANDS AND HELPS TO EQUALIZE LOAD



hoisting purposes in discharging and loading freighters and other craft at the docks.

An important characteristic of this rope is that it resists unstranding. It can be cut at any point for splicing and otherwise handled without the necessity of seizing. Exhaustive tests are said to show that it has considerably longer life than ordinary rope under reversed bending stresses. This is an important asset where winding over sheaves and drums is a chief cause of wear.

The preforming of the wires and strands in the rope results in evenly balancing the load on individual strands and in a remarkably uniform load distribution to single wires. The rope shows no tendency to high strand in actual use and has stood up satisfactorily in winding tests under heavy loads.

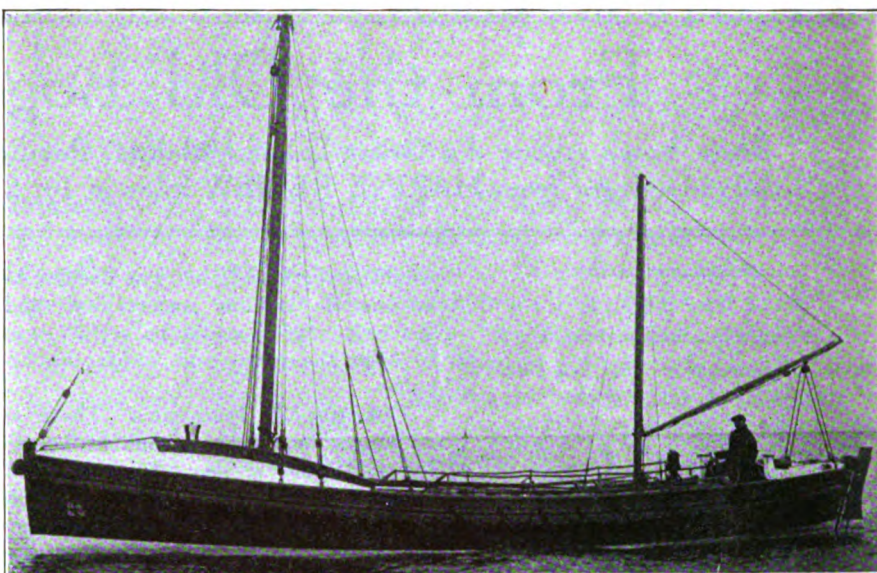
Broken wires in this new rope lie flat. Outer wires on cables, broken by long wear or abrasion, will not necessitate the removal of the rope before it should be discarded. The outer wires of the rope show no tendency to fray out of the rope body. They continue in their places, thus lessening the wear on other wires and on sheaves and drums. The fact that the rope does not unstrand makes splicing a comparatively simple operation. From the standpoint of safety, this wire rope is particularly satisfactory.

To make available practically the entire strength of the new rope, the company has developed for it a special steel fitting, without zinc. This fitting has not only proved dependable under ordinary conditions but also permits the use of turnbuckles, shackles and other equipment.

A steel sleeve is slipped over the smooth unseized end of the rope, placed in a specially designed press, and made to "flow" down upon the rope until it grips wires and strands. These sleeves may be of any reasonable length and can be threaded, and equipped with heads of various types for wrenches, or furnished with eyes or hooks. The fitting is said to be lighter, less bulky and to be more dependable than the old-style zinc socket, probably because of the greater equalization of heavy load on wires and strands.

## New English Lifeboat Has Powerful Motor

Equipped with a 90-horsepower engine the new English lifeboat named THE BROTHERS, shown in the accompanying illustration is more powerful than any other of the hundreds which constantly patrol the coasts of Great



HIGH POWERED LIFEBOAT IN SERVICE AROUND THE BRITISH ISLES—PRACTICALLY NONSINKABLE AND VERY SEAWORTHY

Britain. The machinery is located amidships in a water tight casing and all the controls are brought out to an instrument board at the after end of this casing. The boat is constructed of wood and has a length of 45 feet with a breadth of 12 feet.

No less than 130 air cases are fitted within the hull which makes the vessel practically watertight. A very able sea boat, it can live in the roughest waters. Under ordinary conditions the motor draws air through the hold and this aids ventilation but if the boat should be bilged the air supply is automatically shut off and an alternate supply is opened.

Owing to the centralized arrangement of engine controls one man can readily handle this craft if necessary. The illustration clearly shows, what it is hard to describe in words, that along with being sturdily and substantially built, it has the fine true lines of the master boat builder.

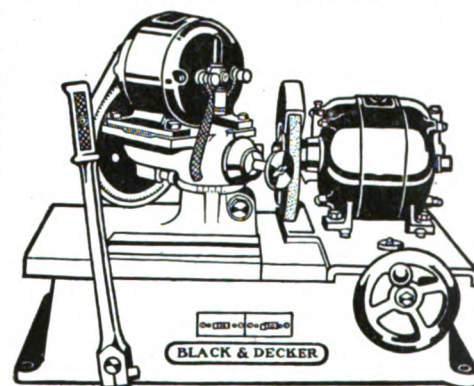
## A New Valve Refacer Electrically Operated

An interesting new type, electrically operated valve refacing machine has recently been perfected and is now under production by the Black & Decker Mfg. Co., Towson, Md.

One of the most important features of this machine is the fact that it is operated with two electric motors instead of one. This design has been followed because of the fact that the two motors have to do radically different work and operate at different speeds. One of them drives the grinding wheel at 3450 revolutions per minute and the other operates the work spindle through a gear reduction giving the final speed of 430 rev-

olutions per minute. The use of two motors in this machine does away with the use of belts or flexible shafts, thereby eliminating many wearing parts and guaranteeing a more uniform grade of work. The valve is held by means of a collet and three of these, 5/16-inch, 3/8-inch and 7/16-inch, are furnished as standard equipment with the machine. These three sizes will take care of 90 per cent of all valve grinding work.

Among other important features embodied in the new valve refacer is the three-point support. This support insures the machine resting solid regardless of where it is mounted. The



DOUBLE MOTOR DRIVEN PORTABLE RE-FACING MACHINE

work carriage and the cross head are also mounted on three-point supports with springs holding them on the V-ways automatically taking up any wear. The base of the machine is made very heavy and it is designed with several heavy braces to prevent any distortion.

This new machine is an accurate tool in every sense of the word and is backed by the usual guarantee of the builders and their good reputation.



# From the Old Log Book

Stray Items About the Great Lakes, Atlantic, Pacific and Gulf Coasts and Inland Rivers from MARINE REVIEW Files of 10, 20, 30 and 40 Years Ago

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June 1885

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**D**OCK laborers at the St. Paul & Pacific Coal Co.'s docks we are told had been receiving 25 cents an hour and struck for 35 cents and that they refused to let other men go to work. The difficulty was finally settled by noon, the men being paid by the ton. Wages have rightfully been steadily increased since these days 40 years ago, but the purchasing value of the dollar has just as steadily declined, and it is questionable just how much better, if any, actual conditions are today.

\* \* \*

The new despatch boat DOLPHIN had recently completed her six hour trials, with a speed ranging from 15 to 16½ knots, and averaging 15½ knots for the entire period. In her first two trials she had fallen below the government contract speed which was 15 knots average over a six hour run. How this remarkable reversal of form was accomplished is not stated. We do know, however, that the DOLPHIN had a long and honorable service in the navy.

\* \* \*

In view of recent developments in the use of sound and echo for depth finding purposes it is interesting to note that successful experiments were carried out 40 years ago in the use of echos for determining the distance off of approaching vessels. These experiments were carried out on the Patapsco river about seven miles from Baltimore. The apparatus employed consisted of a musket to the muzzle of which a speaking trumpet had been attached. This gun was aimed at passing vessels and discharged using blank cartridges, and it was found of course that an echo was returned after a longer or shorter time according to the distance off of the vessel.

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June 1895

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**I**N AN article written by Prof. G. Frederick Wright of Oberlin College, the Chicago drainage canal is referred to as the boldest scheme of modern times. The question of whether drawing water through this canal

would lower lake levels was decided to be one of "baffling uncertainty" and the only way it could be settled was to open the canal and watch the result.

This was 30 years ago. There is no longer any doubt about the lowering of lake levels. A long fight through the Supreme Court between Chicago and the states bordering on the lakes in support of the interests of navigation has just ended.

\* \* \*

*In the quaint phraseology of the day we are told that the General Electric Co. equipped the new Edy-Shaw steamer at Wheeler's yard, West Bay City with a 150 sixteen-candle power lighting plant, and further that this order assures the owners of this ship a plant of the same grade of work put out by the company for all the new cruisers of the navy. Many improvements have gone into the building of generating sets since this time and they are without doubt today practically perfect in every mechanical detail.*

\* \* \*

Assistant Engineer John K. Robison of the United States navy, was quoted on the predominance of boilers of the "tubulous type" in the French navy of that day. He was evidently impressed with the greater economy possible with this type of boiler. John K. Robison, now has the rank of rear admiral and is chief of the Bureau of Engineering of the United States navy.

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June 1905

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**A**N EDITORIAL in MARINE REVIEW pointed out that never before had the ship yards of the Great Lakes had so much work. No less than 16 ships were ordered for delivery in 1906, and a total of 40 ships were under construction or ordered since Jan. 1, 1905 for delivery during 1905 and 1906. The total new tonnage in carrying capacity amounted to 360,500 tons.

\* \* \*

*An announcement was made of the formation of the firm of Cox & Stevens as naval architects and engineers. The firm of Gardner & Cox having been dissolved. The firm is now very*

*well known, specializing particularly in large yacht work.*

\* \* \*

We find illustrations of the initial stages in the construction of the famous Cunarders, the Lusitania and Mauretania. It was pointed out that since the pioneer steamer of this line, the historic Britannia, which sailed on her first voyage July 1840, fitted with paddle wheels and with a total of 750 horsepower, the power placed in single vessel had increased nearly one hundred fold. One of these vessels was under construction at the yard of Swan, Hunter & Wigham Richardson.

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June 1915

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**T**HE battleship MORENO had recently been completed at the New York Shipbuilding Co., for the Argentine Republic. A sister ship the RIVADAVIA was built by the Fore River Shipbuilding Co. In their day these ships were first line fighting units, but ten years is a long time in the life of a battleship, and both ships are now being changed over to burn oil and undergoing elaborate rebuilding and renovation to modernize them. This work is underway at the Fore River plant of the Bethlehem company.

\* \* \*

*A contract was awarded the General Electric Co., for the electric drive on the battleship CALIFORNIA. Though the JUPITER had been fitted with this type of motive power it was still considered somewhat of an innovation.*

*The past ten years have demonstrated the suitability of this type of power for ships of war. That it will become the ultimate type of power in certain classes of merchant vessels as it has in many lines ashore, seems probable.*

\* \* \*

Comments in an appreciative vein by Engineer, London in regard to the career of D. W. Taylor then recently appointed chief constructor of the navy was reprinted. Probably no man ever occupied this important office better fitted to carry on the work, and certainly in no period in the country's history did a chief constructor face such responsibilities as were his.

# Editorial

## Why Not Sell to Ford for Scrap

**A** COMMITTEE, representing practically all private American ocean steamship owners, has formulated, after long and careful consideration, a set of recommendations for the solution of the merchant marine problem. This report received the unanimous approval of all vessel owners and was then given to the President in person by their spokesman. It is a practical document based on actual experience in the ownership and operation of merchant ships. A summary of the principal points will be found elsewhere in this issue. On the question of the disposition of laid up government vessels, the recommendations are quoted in part, as follows:

*"That the government's laid up ships, which have no present or prospective value as commercially successful instruments of American commerce, be sold for scrapping, either in the United States or abroad, and that the salvage therefrom be covered into the United States treasury."*

### Talk Patriotism to Keep Jobs

**B**UT whenever any proposal appears that might lead to the speedy disposal of the government's huge fleet of laid up vessels, and the equally, if not more, costly office holding positions in the shipping board and the Emergency Fleet Corp., a small minority group in the board always comes to the defense of the present order by appealing to the "patriotism" of the people to keep the ships and the board for the "national defense." This minority has an eagle eye open for just such an opportunity of drawing upon the sentiment of the public.

During the negotiations of Chairman O'Connor with Henry Ford on the possibility of selling 400 of the idle shipping board fleet for scrapping purposes, this minority immediately became active. Of course, the Ford proposal and overtures were intangible, and it can hardly be expected that any one interest would be given the opportunity to buy these ships without others having the chance to bid. Such procedure naturally would create a furore. The Ford negotiations, however, have helped to stir up interest on the part of other prospective buyers of ships for scrapping. Offers are being made constantly, some of which come from prospective foreign purchasers. The policy of a majority of the board has been to give American interests the first chance.

The Ford negotiations will undoubtedly serve

a useful purpose in arousing the public mind to the wasteful extravagance of the present merchant marine policies, and to realization of the burden the emergency fleet imposes upon the country. At least it has started comment in many quarters. The statement issued by Commissioner Thompson, of the board, deploring negotiations that would lead to the sale of ships for scrapping or for private use, on the grounds that the fleet is needed for the country's defense and for the national trade, is absurd. It ought to be clear by now that the government owns many more ships than can possibly be used and great numbers are not fit to use. If the time should come when a huge fleet is again needed for an emergency, the present laid up fleet would be about as adequate as Noah's ark.

### A Hercules Needed to Clean Up

**T**HAT President Coolidge is fully aware of the major importance of this difficult and complicated problem is demonstrated by his action in directing nine separate government divisions to make a real study of present merchant marine policies and the outlook for the future. This is really the first comprehensive study of the merchant marine since President Harding made his proposal several years ago for a subsidy for American shipping.

The President's reception of the recommendations of American steamship owners, referred to above, is a further indication that he proposes to see the matter through to a finish. For his information he has requested the navy, war, commerce, post office and treasury departments, as well as the Fleet corporation and the budget bureau, to submit reports on these proposals. Views so submitted will be used in a message to congress in the next session in placing before both houses the necessity of dealing with the shipping board and fleet corporation as one of the leading problems before the country. At least one result may be expected from this message, and that will be the development of a strong feeling that the task of operating ships must be taken from the government as quickly as possible. Such is the administration's policy for the future. This, indeed, is a hopeful sign. The chief executive is responsible for taking the lead and congress will be compelled to act, as the nation is sick and tired of backing and filling any longer on this vital question, and wants some action.



# Coolidge Given Shipowners' Plan

Make Powers of Board Solely Regulatory—Reduce Membership—Maintain Essential Routes by Mail Contracts and Other Aids—Modify Laws and Hampering Restrictions

**D**EFINITE plans by which it is urged that the shipping board can sell the government-owned fleet and American companies can successfully operate the ships have been completed by the American Steamship Owners' association, the Pacific American Steamship association and the Shipowners' association of the Pacific, after a careful study of the situation by a series of conferences at New York. Included in these organizations are almost all of the owners of ocean-going tonnage under the American flag. They are in entire agreement on the program that has been drawn up, and transmitted by President Alfred Gilbert Smith of the American Steamship Owners' association to President Coolidge and members of his cabinet, and the shipping board.

The recommendations urge the creation of two special agencies, consisting of the secretary of commerce, the postmaster general, the secretary of the navy, the director of the budget and one or two American citizens experienced in shipping, appointed by the President, to determine the extent of the services to be carried on in the one case by passenger and cargo ships, and in the other case by purely cargo tonnage, essential to national defence and the promotion of foreign trade. To the second of these special agencies the chairman of the shipping board is to be added. These special agencies, according to the recommendations of the shipowners, are to determine the amount of direct national aid, through mail pay or other compensation, necessary to maintain the mail, passenger and cargo services of the merchant marine in overseas trade, with reference to the particular needs of each service, subject to appropriations therefore by congress.

## Reduce Board to Three Members

Contending that these direct national aids and certain indirect aids also suggested would insure the sale of fit government-owned ships to private owners, the Shipowners' associations further recommend that the shipping board be reduced from its present number of seven to three commissioners, "appointed by the President without regard to political or geographical considerations, but

with special regard to their business qualifications, one of whom shall have had shipping experience," and that the shipping board, so constituted, "be vested with such regulatory powers as are necessary to the promotion of an American merchant marine, similar to those regulatory powers conferred upon the shipping board by the shipping act, 1916."

Furthermore, the Shipowners' associations recommend that the Fleet corporation, either in present or



ALFRED GILBERT SMITH  
President, American Steamship Owners' Association

modified form, be continued as an agency of the government "to liquidate the government out of the shipping business at the earliest possible moment." Control of the Fleet corporation, according to the plan of the shipowners, would be vested in the secretary of commerce or in a newly constituted department of marine, through a transfer of the stock of the corporation. Pending liquidation, the Fleet corporation is to exercise supervision over the operation of the essential steamship services.

For encouragement of American shipbuilding, the Shipowners' associations present a plan for wider use of the present construction loan fund, to be transferred to the control of the secretary of commerce "and to be

continued available at a rate of interest not to exceed 3 per centum per annum for future construction by American citizens of approved types of ships in American shipyards." To this end it is urged that loans be granted equivalent to the amount of the difference between the cost of building in American and in foreign yards, provided, however, that the vessels which receive the benefit of these loans shall be employed in the foreign trade and "shall not be permitted to engage in the coastwise trade of the United States until the entire amount loaned is repaid to the government."

As indirect aids to the promotion of an adequate privately-owned merchant marine, the Shipowners' associations further urge certain changes in the Seamen's act, which is described as "in many respects a salutary measure," and in the navigation and immigration laws; repeal of duties on ship repairs; reduction in Panama canal tolls; and ending of government competition. Definite recommendations for amendment of the Seamen's act have already been presented to the government by the shipowners. Extension of the coastwise laws to the Philippines is asked "as soon as the President deems it expedient." The shipowners request that the government relinquish to privately-owned American ships the carriage of government supplies or troops in time of peace, and that all government officials and employees and all government cargo be conveyed in privately-owned American vessels.

## Schoolships for Training Officers

The Shipowners' associations approve the recently enacted naval reserve act, and ask that under the supervision of the secretary of commerce seven schoolships, with auxiliary power, be established—three on the Atlantic coast, one on the Gulf, one on the Great Lakes and two on the Pacific—to train young men for the merchant service. Another recommendation is that honorably discharged enlisted men of the navy be enabled to pass examinations for certificates as third officers or third assistant engineers, or be granted certificates as able seamen according to their qualifications and length of serv-



ice. This would be very desirable.

Other features of the recommendations of the American shipowners involve a revision of laws and rules governing inspection and other duties of the steamboat inspection service; more liberal allowances for depreciation of ships; freedom of transfer of ships to foreign registry, except in national emergency; enactment of a compensation act for ship workers, and adoption of continuous discharge books by the Federal government.

The Shipowners' associations favor the "maintenance of the time-honored policy of reserving the coastwise

trade to American citizens and American-built vessels," and ask that for the special encouragement of the intercoastal trade the United States mails, now carried in foreign-flag ships to and from the Panama canal, be reserved to American intercoastal steamers, so far as practicable. International recognition of classification societies is emphasized as desirable, and the shipowners approve an investigation of deepening the New York barge canal, as an aid to American foreign commerce.

As to the government's laid-up ships, the shipowners urge that those

vessels having no present or prospective value be sold for scrapping in the United States or abroad, and that the better vessels of the laid-up fleet be preserved until they can be sold to American citizens. All present shipping board services that are deemed essential either to the promotion of commerce or to the national defence, the shipowners insist should be operated by American citizens, "preferably those who have had the courage to invest their money in the shipping business," and who have a capacity and willingness to buy the ships operated as soon as possible.

## How Panama Canal Tolls Are Assessed

BY COL. M. L. WALKER  
*Governor of Panama Canal*

**I**TEMS recently appearing in many of the daily papers and in practically all periodicals dealing with marine matters indicate such entire misapprehension of the intention and effect of proposed legislation basing tolls upon Panama canal rules of measurement only, that it seems desirable that those interested be correctly informed.

The present situation is due to the attorney general's decision on the meaning of certain language in the basic Panama canal act, under which all vessels must be measured both by Panama canal rules and by the United States rules for measurement of vessels. Then, applying the rates of \$1.20 per ton Panama canal rules and \$1.25 per ton United States rules, the vessels pay whichever results in the smaller tolls bill.

This double system of measurement is not only a considerable administrative difficulty for the canal authorities, but the use of the United States rules as interpreted by the commissioner of navigation results in additional embarrassment, since all changes made by him from time to time in his interpretations must apply at the canal, often resulting in vessels having considerable variations made in their tolls bills in consecutive trips through the canal, when no change whatever may have been made in the ship itself or in the rates for tolls. This variation in tolls without any apparent reason, is difficult to explain to ship owners, especially to those of foreign flags.

Furthermore, vessels of almost identical construction and of identical carrying capacity are rated differently as to net tonnage because of slight differences in the size of openings, in arrangement of fuel pumps, or other

differences not connected with the carrying capacity of the ship. Illustrative of this is the case of the GOLD SHELL and the SILVER SHELL, two ships of exactly the same dimensions and the same cargo carrying capacity, the former paying tolls of \$4386.25 and the latter \$5076.25, for no other reason than that there is a difference in location of a small fuel transfer pump.

Another illustration of the absurdi-

carrying capacity of the ship.

The Panama canal administration has been endeavoring for some years to have the Panama canal rules made the sole standard of measurement. Should these rules be applied without any changes in present toll charges, the result would be a considerable increase in the collection of tolls, and, consequently, there would result a heavier burden on shipping. Realizing the objection to this increase, it is proposed that, if the bill adopting the Panama canal rules as the sole basis of measurement becomes a law, the President will be asked to issue an executive order reducing the rates to \$1 per ton loaded and 60 cents per ton in ballast, to be effective as soon as the above legislation becomes operative. Instead of the proposed change putting an additional burden of several million dollars on shipping, definite calculation shows that during the last fiscal year, the Panama canal would have collected \$494,357.54 less in tolls than under the existing double system of measuring ships, and that for the first six months of the present fiscal year this reduction in tolls would have amounted to \$50,053.21.

The Panama canal rules, prepared by Dr. Emory R. Johnson, dean of the Wharton School of finance and commerce, University of Pennsylvania, are believed to provide a much fairer index of a vessel's earning capacity than the United States rules. It is quite true that if the change is made some individual ships will pay somewhat higher tolls than they do now, but the general effect upon shipping is a slight reduction in tolls, and it is believed the opinion of shipping men as a whole, if they will inform themselves as to what is proposed, will be favorable to the legislation asked.

### A True Story of Canal Tolls

**C**OLONEL WALKER points to the lack of understanding among marine publications of the basis of assessing Panama canal tolls. In an article in the January, 1923, issue of *Marine Review* the question of Panama canal tolls was thoroughly and accurately discussed. The absurdity and great inconvenience and economic loss in dual admeasurement was fully pointed out. Anyone not having seen this article will find on reading it that it hits the nail on the head.

ties due to the present method of measuring net registered tonnage is the case of a ship recently transiting the canal, where the captain forgot to carry into effect orders which he had received to knock the cleats off a certain opening, and had to pay an additional \$1200 toll because of such forgetfulness. In other words, this ship could have benefited to the extent of a \$1200 reduction in tolls by having these cleats removed, although the cargo was actually in the compartment, and whether cleats were there or not had no effect upon the



# Dock Management Progress Section

How Successful Dock Operators Have Met  
Problems of Giving Best Service to Ships



Loading produce from dock to ship at Cleveland—showing use of trailers and towing machine

## Cut Labor Cost in Handling Freight

ORDINARILY in considering, shipping on the Great Lakes it is the great fleets of bulk carriers of iron ore, coal and grain that come to mind. These ships are big even by ocean standards as some are over 600 feet long and carry 12 to 13 thousand tons but they are engaged in a specialized trade where methods of cargo handling have been reduced to their simplest terms and therefore, comparisons cannot be made between such methods and those used at ocean terminals.

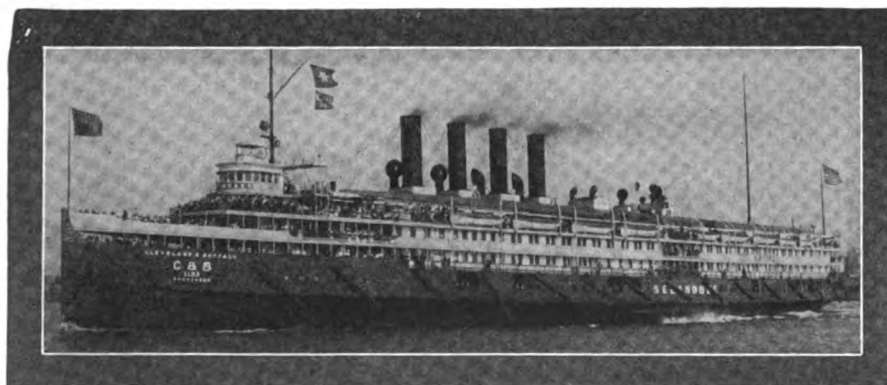
A large volume of ordinary package freight manufactured goods and merchandize of all kinds does move by water between the great industrial cities of Cleveland, Buffalo and De-

troit, besides freight to and from New York, Boston and Philadelphia and adjacent country and midwestern points as far west as the Mississippi for which the transportation by water is only one leg in the journey. Two prosperous well equipped steamship lines are engaged in this freight service and in carrying passengers. A short review of the activities of the latter of these two to be organized may be of interest. The methods used in handling cargo in this case are directly comparable to methods used for Hudson river, Long Island sound and ocean coastwise vessels.

In the year 1892, T. F. Newman, then associated with the Detroit and

Cleveland Navigation Co., as general agent, at Cleveland, became convinced that a line of passenger and package freight steamers between Cleveland and Buffalo would offer a real service to the community. With very little encouragement at the beginning, but by putting forth untiring efforts he finally succeeded in organizing the Cleveland & Buffalo Transit Co. Two side wheel passenger steamers, the STATE OF OHIO and the STATE OF NEW YORK were purchased from the Detroit & Cleveland Navigation Co., and placed in service between Cleveland and Buffalo in the spring of 1893.

For the first one or two seasons the earnings were not very large, but the business steadily increased, so that the indications were that eventually the company would pay dividends. A few years later, the business had grown to such an extent that the two original steamers were wholly inadequate. The steamer CITY OF BUFFALO was then built, which at the time was the best steamer of its kind on the Great Lakes. Two years later, the company built the steamer CITY OF ERIE, one of the fastest steamers that has ever sailed on the Great Lakes. The business continued to grow and in 1913 the company again added to its transportation facilities by building the steamer SEEANDBEE, at the time the largest and costliest



THE SEEANDBEE IN SERVICE BETWEEN CLEVELAND AND BUFFALO—BUILT IN 1913—LENGTH 500 FEET—BEAM 98 FEET 6 INCHES—DEPTH 23 FEET—DRAFT 15 FEET



steamer on the inland waters of the world. The addition of the *SEAND-BEE* increased the company's carrying capacity, both as to passengers and freight, about 100 per cent. The *SEAND-BEE* opened the season of 1914, with the *CITY OF BUFFALO* in the Cleveland and Buffalo run. The steamer *CITY OF ERIE* making the daylight trips to Cedar Point and Put-in-Bay.

For the season of 1925, during the months of June, July and August, the carrying capacity has again been in-



A MODERN WAY OF HANDLING CARGO—TRANSFERRING FREIGHT FROM CARS TO STEAMER AT CLEVELAND WITH THREE TRAILERS IN TOW

LOADING FREIGHT CARS DIRECT FROM STEAMER OF THE CLEVELAND & BUFFALO TRANSIT CO.

other end of the lake, these trailers with contents are hauled ashore and unloaded to trucks or freight cars. These trailers are hauled by four gasoline tow-motors, also by electric trucks. The accompanying photographs show tow-motors and trailers in use.

### April Lake Levels

The United States Lake Survey reports the monthly mean stages of the Great Lakes for the months of March and April, 1925, as follows:

Lakes	March	April
Superior	600.80	600.85
Michigan-Huron	578.38	578.50
St. Clair	573.41	573.76
Erie	570.91	571.35
Ontario	245.20	245.61

Lake Superior is 0.16 foot lower than a year ago, 0.86 foot below the average stage of April of the last 10 years, 1.84 feet below the high stage of April, 1860, and 0.31 foot above the low stage of April, 1911. Lakes Michigan-Huron are 0.39 foot lower than the low April level of a year ago, 1.65 feet below the average stage of April of the last 10 years, and 4.73 feet below the high stage of April, 1886. Lake Erie is 0.42 foot lower than a year ago, 0.83 foot below the average stage of April of the last 10 years, 2.83 feet below the high stage of April, 1862, and 0.29 foot below the low stage of April, 1895. Lake Ontario is 0.25 foot higher than a year ago, 0.39 foot below the average stage of April of the last 10 years, 2.82 feet below the high stage of April, 1886 and 0.77 foot above the low stage of April, 1872.

The steamer *ROSEWAY* is being placed in a freight service between Boston, Bridgeport and Newark.

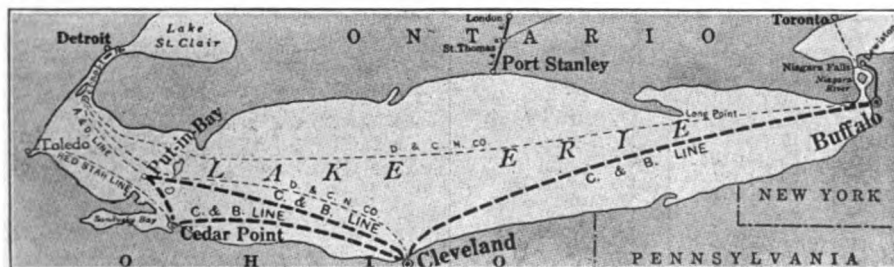
creased by adding the steamer *CITY OF ERIE* to the Cleveland and Buffalo service. Under this plan the steamer *CITY OF BUFFALO* and Steamer *CITY OF ERIE* will run opposite the *SEAND-BEE*, thus offering to the traveling public a maximum capacity every night, both from Cleveland and Buffalo.

The steamer *CITY OF ERIE*'s place on the Cleveland, Cedar Point and Put-in-Bay run will be taken this season by the new day excursion steamer *GOODTIME*, one of the finest of her type on the Great Lakes. The steamer *GOODTIME* will have a passenger carrying permit for about 3500 passengers.

The bulk of the passenger traffic of course is carried during the sum-

mer months, but owing to the large volume of freight offered, the steamers open the season between Cleveland and Buffalo just as early as the ice at the lower end of Lake Erie will permit. Low differential lake-and-rail rates are in effect via the Cleveland and Buffalo line from Cleveland to Buffalo and all eastern and Canadian points, and from all eastern points to Cleveland, St. Louis territory and points beyond. The saving over all rail rates varies on different classes and between different points all the way from 1 to 13½ cents per 100 pounds.

Many changes have taken place also in the handling of freight. Today nearly all freight is unloaded from the trucks to trailers and hauled aboard steamers, and on reaching the



MAP OF LAKE ERIE SHOWING EASTERN AND WESTERN CONNECTIONS OF THE CLEVELAND AND BUFFALO TRANSIT CO



# Late Flashes On Marine Disasters

Brief Summaries of Recent Maritime Casualties—  
A Record of Collisions, Wrecks, Fires and Losses

NAME	DATE	NATURE	PLACE	DAMAGE RESULTING	NAME	DATE	NATURE	PLACE	DAMAGE RESULTING
Altair	Mar. 30	Stranded	Havringer	Total loss	London Exchange	April 27	Collision	Listons Range	Unknown
A. M. Byers	April 16	Ashore	Squaw Is. Shoal	Leaking	Lake Geneva	April 15	Fire	Yonkers	Cargo
Algic	April 20	Collided wall	Bombay	Stem; plates	Martin Carl	April 13	Collision	Dover	Badly
Anten	April 7	Hevy. wea.	Malmo	Cargo	Mexpet	April 17	Struck sub. object	Kills	Wheel
Anvall	April 7	Hevy. wea.	Landskrona	Deckload	Miriam Stewart	April 8	Ashore	Cairnbulg Briggs	Holed, filled
Ardgryfe	April 12	Collision	S. Goodwin, light-vessel	Portside; plates	Memphis	Mar. 9	Struck wall	Garston	Stem
Azov	May 4	Ashore	Cape Hogan	Total loss	Montauban	April 11	Grounded	Poortershaven	Floated
Acadie	Mar. 9	Hevy. wea.	Gibraltar	rudder, stern machinery	Micheline	Mar. 22	Collision	Malta	Not stated
Ailsa	April 9	Collision	English Channel	Badly holed	Mamie Higgins	April 28	Fire	Houston Ship Channel	Total loss
Amparo Alabi	April 13	Collision	Aviles	Not stated	Moldegaard	May 1	Ashore	Pennant	Total loss
Arola Mendi	April 7	Collision	Messina	Not stated	Millgate	April 16	Collision	Carthage	Not stated
Alfaratta	May 4	Went on rocks	Froswater Cove	Leaking	Mexcur	Mar. 12	Collision	Not stated	Sternpost, plates
Balsa	April 16	Aground	Romer Shoal	Filled	Maagen	Mar. 12	Collision	Malmo	Damaged
Bekul	April 9	Collision	Antwerp	Sunk	Menado	Mar. 30	Grounded	Lindi	Not stated
Brazil	April 10	Stranded	Cape St. James	Holds, cargo	Marjorie Seed	April 4	Ashore	Lady Island	Total loss
British Premier	April 22	Collision	Port Said	Plates	Night Hawk	April 9	Collision	Not stated	Damaged
Bainbridge	May 1	Disabled	Benton Harbor	Wheel	Nordia	Mar. 9	Collision	Not stated	Damaged
Bengalis	April 4	Ashore	Doel	Floated	Oriole	April 12	Collision	New Orleans	Considerable
Cherry Branch	Mar. 31	Sunk Lighter	Dock Callao	Not stated	Oakhill	April 21	Disabled	Philadelphia	Towed, lk.
Carl O. Kjellberg	Mar. 31	Hevy. wea.	Antwerp	Deck and cargo	Orchis	April 12	Collision	Beachy Head	Bulwarks, rails, deck
Chas. R. McCormick	April 17	Collision	Astoria	Bows	Odysseus	Mar. 11	Ashore	Hamburg	Not stated
Cianeros	April 3	Fire	Finisterre Bay	Considerable	Old Hickory	Mar. 11	Aground	New Orleans	Not stated
Candiano	April 4	Fire	Trieste	Total loss	Oaklands Grange	April 15	Struck dock wall	Buenos Ayres	Plates, frames
Chiquimula	Mar. 22	Disabled	Jamaica	Loss of sails	Pallas	April 12	Collision	New Orleans	Not stated
Conifer	Mar. 30	Collision	Dunkirk	Not stated	Prest Van Buren	May 1	Aground	Kobe	Not stated
Cyril	Mar. 22	Collision	River Thames	Not stated	Phyllis Hudson	Mar. 13	Stranded	Brake	Towed
City of Norwich	April 14	Disabled	Port Said	Rudder, propeller	Porthmeor	Mar. 11	Collision	Ellesmere Port	Not stated
Carbet	April 20	Fire	Bona	Cargo	Pura Rasilla	April 6	St. bk'water	Buenos Ayres	Rudder
Clackamas	May 1	Collision	Halifax	Not stated	Peter Benoit	April 11	Disabled	Antwerp	Engine
Cape D'O'r	May 1	Collision	Halifax	Sank	Pina	April 16	Ashore	Hook of Holland	Floated
Ceuta	Mar. 14	Struck quay wall	Antwerp Docks	Propeller	Pentwyn	April 16	gale, adrift	Barry Docks	Not stated
Castor	Mar. 11	Collision	Ellesmere Port	Not stated	Rhesus	April 16	Collision	Suez	Badly
Concordia	April 16	Struck pier	Royal Edward Dock	Bows	Raifuku Maru	April 21	Sank	Halifax	Total loss
Colusa	April 16	Stranded	Palta	Plates, tank	River Garry	April 8	Ashore	Hummersea	Lost prop.
City of Bristol	May 8	Fire	Sydney	Not stated	Rhea	Mar. 22	Collision	Malta	Plates
Chat Botte	April 19	Collision	Hourtin Light	Sank	Rhone	April 10	Collision	Toulon Roads	Damaged
Coiteiro	April 20	Disabled	Leixos Harbor	Engine	River Lossie	April 9	Collision	Not stated	Damaged
Dipper-dredge No. 1	April 17	Foundered	St. Clair Flats	Sank	River Tay	April 11	Ashore	Pittenween Harbor	Not stated
Doride	April 1	Foundered	Aguilas	Sank	Soerakarta	Mar. 9	Head-on	Rotterdam	Total wreck
D. J. Morrell	April 17	Struck Detour	Detroit	Leaking	Sierra Morena	Mar. 12	Collision	Not stated	Prop. blade
Dalmazia	Mar. 16	Disabled	Antwerp	Engines	Staveley	April 9	Collision	River Humber	Not stated
Deucalion	April 14	Collision	Havre Roads	Plates	Seagull	April 9	Collision	English Channel	Badly
Eta M. Martin	April 16	Explosion	Gloucester	Badly	S. A. C.	April 16	Collision	Carthage	Not stated
Edwin G. Farrar	April 23	Collision	Hell Gate	Not stated	Swordfish C 963	May 4	Stranded	Cpe. Henlopen Pt.	Floated
Eastern Coast	April 12	Collision	Beachy Head	Not stated	Strabo	April 24	Grounded	Martin Garcia	Not stated
E. E. Loomis	May 1	Collision	Houghton	Stern plates	Stanislas	April 22	Collision	Corporation Whf.	Not stated
Erisos	Mar. 11	Aground	Rosario	Crankshaft	Shinyu Maru	April 26	Collision	Kurushima Strait	Badly
Erika	April 25	Collision	River Scheldt	Badly	Strabo	April 27	Collision	Holtenau	Floated
Folden I	April 12	Collision	North Sea	Sunk	Schwarzwald	April 28	Grounded	Scheldt	Floated
Funchal	April 25	Collision	South Channel	Port bow	Spica	April 29	Fire	Bergen	Not stated
Flevo	Mar. 18	Fire	Not stated	Badly	Salacia	April 15	Fire	St. John, N. B.	Cargo
Florence	April 12	Sunk	River Humber	Not stated	Sandy Hook	April 16	Aground	Romer Shoals	Cargo
Francesco	April 13	Ashore	Benghazi	Wrecked	Storfield	April 4	Hevy. wea.	Jacksonville	Cargo
Frome	Mar. 21	Collision	River Avon	Rigging, plates	Sarnian	April 20	Fire	Goderich	Not stated
Fritz Schoop	May 4	Disabled	St. Johns	Furnaces	Sujameco	April 25	Disabled	San Francisco	Engine
Gowrie	Mar. 30	Collision	Dunkirk	Plates	Stacpool	April 26	Ashore	St. Marys Bay	Not stated
Glendola	April 23	Collision	Cape Fear River	Bow	Stromo	April 11	Collision	Dudgeon lightship	Bow
Geo. W. Elzey	April 23	Collision	Hell Gate	Not stated	Sevilla	April 6	Fire	Olo	Cargo
G. G. Barnum	May 2	Hit bk'water	Conneaut	Rudder	Stellville	April 13	Fire	Not stated	Cargo
Gouvernor General	Mar. 9	Struck break-water	Not stated	Serious	Thomaston	April 27	Collision	Listons Range	Sank
Tirman	Mar. 12	Disabled	Geestemunde	Motor, deck	Tower Bridge	April 11	Collision	Dungeness	Strbrd. bow
Glitne	April 15	Collision	Marselles	Damaged	Tacoma Maru	April 15	Fire	Kobe	Condid.
Germaine L. D.	April 1	Ashore	Kristianopol	Filled	Taga Maru	Mar. 12	Stranded	Heki Kii Chan.	Not stated
Harmina	April 4	Weather	Buenos Aires	Deck, cargo	Twickenham	Mar. 11	Grounded	Port Said	Plates
Hampstead	April 5	Sank	Hachijo Island	Total loss	Tannenfels	April 10	Grounded	Karachi	Floated
Hachijo Maru	April 8	Struck quay	Yarmouth	Propeller	Thelma	May 5	Fire	Cape San Blas	Not stated
Hernia	April 8	Collision	Buenos Aires	Bow, plates, deck	Ursa	Mar. 12	Disabled	Hamburg	Lost prop., towed
Haliartus	April 11	Towed	San Pedro	Lost prop.	Valrossa	April 13	Fire	Listons Point	Cabin
Halo	April 16	Collision	New Orleans	Badly	Veenidijk	April 3	Fire	Sourabaya	Not stated
Historian	May 9	Ashore	Blind Point	Total loss	Visitor	April 25	Fire	Flushing	Consid.
Hans Jensen	May 6	Grounded	Devonport	Bottom	Vita Nova	April 13	Fire	Lishon	Not stated
Iron Baron	April 5	Struck rock	Tampico	Not stated	Vancouver	Mar. 9	Ashore	Peniche Coast	Total wreck
Inlay	April 4-5	Hvy. weather	Fowey-Irvine	Cargo	Wayfield	Mar. 22	Collision	River Thames	Plates; frames
Irish Minstrel	April 28	Collision	River Scheldt	Badly	W. C. Teagle	April 15	Struck while aground.	New Orleans	Holed
Innoko	April 28	Collision	River Scheldt	Stem	W. H. Tilford	April 23	Collision	Cape Fear River	Leak. sl.
Isis	April 15	Struck obs.	Neponset River	Leak	Wm. Campion	April 24	Disabled	Colon	Machinery
Jim Hughes	April 22	Aground	Vidal Shoals	Floated	Wm. F. Herrin	April 10	Disabled	San Pedro	Towed
James E. Ferris	April 26	Collision	Detroit River	Not stated	W. C. Agnew	April	Struck	Detour	15 plates
John A. Kling	April 11	Aground	Yerimosaki	Sank	William Ferrins	April 15	Ashore	Collietion	Badly holed
Kenkon Maru	Mar. 2	Foundered	Idzu	Not stated	W. A. Thompson	May 1	Fire	New York	Consid.
Kozan Maru No. 1	Mar. 16	Collision	Lunenburg	Not stated	Woodcote	April 9	Collision	North Sea	Plates; framework
Kershaw	April 12	Sub. obj.	Port St. John's	Plates	Wallsend	April 28	Collision	Sydney	Badly
Karin	Mar. 29	Str. sub. obj.	River Medina	Prop. blades	Yoshida Maru	April 17	Collision	Astoria	Bows
Leelee	April 21	Sank	Assateague Sta.	Not stated	Yeiyu Maru No. 3	April 7	Sank	Yokosuka	Sank
Lincoln	April 8	Disabled	Libau	Prop. tanks, leaks					
Liuhope									



# Marine Business Statistics Condensed

## Record of Traffic at Principal American Ports for Past Year

### New York

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925	434	1,796,849	528	2,093,444
March	472	1,899,036	517	2,032,263
February	398	1,680,392	449	1,867,624
January	387	1,556,853	457	1,869,323
December	423	1,673,567	470	1,822,485
November	392	1,709,329	456	1,921,088
October	459	1,915,122	540	2,332,411
September	476	2,072,324	483	2,026,172
August	406	1,650,694	479	2,018,621
July, 1924	491	1,937,802	525	2,081,663

### Philadelphia

(Including Chester, Wilmington and the whole Philadelphia port district)

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925	102	243,546	67	182,335
March	96	238,863	58	163,257
February	93	238,802	55	154,033
January	77	224,574	57	180,331
December	71	179,994	61	188,667
November	85	220,852	59	174,470
October	75	171,465	52	137,653
September	82	192,900	66	161,925
August	86	192,777	57	138,280
July, 1924	90	195,704	63	149,736

### Boston

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925	99	224,275	82	179,010
March	94	295,292	54	159,928
February	85	278,024	46	121,141
January	78	205,327	34	80,480
December	100	278,347	52	125,332
November	97	310,423	55	149,777
October	128	327,931	82	179,963
September	113	308,352	75	183,286
August	120	293,661	91	176,563
July, 1924	139	351,477	99	193,747

### Portland, Me.

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925	24	53,326	30	86,338
March	29	96,263	27	88,408
February	21	72,642	24	83,393
January	23	65,910	23	65,218
December	30	86,088	29	78,076
November	15	26,281	12	19,616
October	11	12,506	15	24,551
September	19	42,910	16	34,813
August	24	52,400	25	54,739
July, 1924	18	43,926	22	49,365

### Providence

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925	11	43,757	7	28,136
February	12	37,995	13	41,669
January	12	38,395	11	39,717
December	9	36,259	11	40,624
November	11	45,232	8	37,967
October	6	16,071	8	14,522
September	7	20,038	5	21,937
August	7	21,863	5	18,916
July	8	27,747	7	28,730
June, 1924	5	21,873	4	10,456

### Portland, Oreg.

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925	17	68,981	19	80,425
March	15	56,297	26	90,025
February	13	51,236	21	81,438
January	19	71,880	23	86,518
December	17	64,756	29	115,186
November	27	105,529	36	137,696
October	24	92,077	43	159,017
September	26	97,923	36	128,205
August	22	78,722	31	118,526
July, 1924	11	45,451	22	84,195

### Baltimore

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925	125	363,563	133	394,223
March	115	344,937	112	322,580
February	103	323,817	79	250,369
January	90	282,299	79	250,369
December	105	326,907	99	291,043
November	105	325,934	97	305,601
October	101	297,822	118	355,500
September	94	282,861	100	289,324
August	90	278,346	105	329,470
July, 1924	106	318,585	106	318,182

### Norfolk and Newport News

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925	32	84,936	112	308,744
March	26	78,427	100	287,061
February	14	40,669	66	186,031
January	39	95,259	88	262,371
December	41	108,930	93	274,576
November	31	89,647	70	205,671
October	39	95,375	71	227,247
September	30	83,640	80	251,466
August	27	80,338	94	281,959
July, 1924	30	78,138	102	301,920

### Savannah

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925	39	106,938	36	59,574
March	39	106,938	36	59,574
February	40	101,408	37	91,185
January	33	90,730	33	91,062
December	40	109,496	40	113,538
November	36	109,623	39	115,168
October	35	101,689	31	93,380
September	34	94,422	36	100,903
August	25	71,138	25	68,527
July, 1924	23	56,548	25	64,981

### Key West

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925	85	103,116	84	102,860
March	88	105,841	87	115,285
February	77	94,214	77	96,890
January	75	100,350	71	96,815
December	77	90,316	72	83,706
November	90	101,387	84	102,408
October	75	92,284	72	89,364
September	84	103,588	83	98,063
August	81	93,805	82	94,682
July, 1924	94	110,228	91	106,127

### Mobile

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925	92	190,808	91	180,993
March	97	215,386	91	197,950
February	93	192,722	82	184,575
January	84	192,722	82	184,575
December	84	165,352	80	165,325
November	80	169,400	73	156,327
September	80	176,416	71	160,717
August	75	145,597	73	147,681
July, 1924	77	161,386	81	166,218

### Seattle

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925	41	156,761	42	173,116
March	39	168,567	39	157,419
February	31	124,870	30	129,648
January	39	169,458	36	145,663
December	36	164,991	45	181,849
November	40	203,891	45	194,766
October	45	175,725	48	198,037
September	48	193,049	41	168,594
August	35	149,904	41	179,108
July, 1924	35	156,626	47	197,330

### New Orleans

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925	266	692,569	283	727,156
March	294	774,343	280	738,445
February	178	485,135	170	488,675
January	253	731,964	264	738,164
December	277	776,064	257	735,100
November	247	713,667	250	735,984
October	267	757,738	279	768,630
September	248	677,631	237	640,301
August	247	645,151	252	676,881
July, 1924	241	650,671	250	687,005

### Houston

(Cargo tonnage)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
December, 1924	99	39,568	102	154,455
November	101	36,016	95	233,436
October	..	34,945	..	192,886
September	94	50,710	90	171,229
August	82	66,665	84	114,966
July	59	77,062	57	288,417
June	65	74,794	72	336,312
May	72	64,937	71	362,350
April	78	76,466	73	337,757
March, 1924	88	113,064	87	411,715

### Galveston

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
February, 1925	56	140,065	90	277,751
January	67	188,781	110	337,882
December	63	190,311	107	341,705
November	100	342,472	126	408,277
October	77	238,918	120	386,412
September	65	189,293	112	350,173
August	61	177,941	87	268,774
July	52	147,279	58	172,847
June	41	133,079	55	170,181
May, 1924	58	148,758	69	200,846

### Los Angeles

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925	153	316,134	137	262,631
March	131	359,572	113	281,149
February	162	284,988	127	237,474
January	127	312,248	115	259,345
December	153	343,151	118	276,302
November	195	310,425	121	223,778
October	156	290,697	184	285,871
September	128	333,989	136	277,479
August	96	301,744	76	239,441
July, 1924	96	337,767	74	275,993

### San Francisco

(Exclusive of Domestic)

Month	Entrances		Clearances	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925	134	472,879	157	517,654
March	129	542,912	139	669,867
February	117	443,749	124	454,699
January	119	446,477	126	454,303
December	59	231,805	83	314,541
November	73	251,022	82	318,515
October	64	234,894	72	243,898
September	67	225,161	65	220,507
August	61	219,133	65	230,938
July, 1924	49	179,671	72	232,262

### Port Arthur

(Exclusive of Domestic)

Month	—Entrances—		—Clearances—	
	No. ships	Net tonnage	No. ships	Net tonnage
April, 1925 . . .	33	100,595	43	116,485
March . . . . .	38	95,977	46	110,248
February . . . . .	32	95,537	19	44,376
January . . . . .	34	100,449	33	85,261
December . . . . .	34	101,609	41	122,869
November . . . . .	32	107,737	32	90,726
October . . . . .	47	144,763	54	159,034
September . . . . .	42	120,636	38	105,700
August . . . . .	42	116,626	32	89,698
July, 1924 . . . .	47	130,595	47	115,750

# What the British Are Doing

Short Surveys of Important Activities in Maritime  
Centers of Island Empire

**T**HE new Cunard liner **ASCANIA** made her trial trip from Newcastle on Tyne to Southampton on May 4 preparatory to her installation in the Canadian service. Her first voyage is from Southampton to Quebec and Montreal on May 22. The vessel was built by Armstrong, Whitworth & Co., of Newcastle on Tyne, and the builders claim that she is the most modern passenger ship afloat. The **ASCANIA** is a 14,000-ton liner carrying 522 cabin and 928 third class passengers. While less luxurious than the **AQUITANIA** the vessel specializes on third class accommodation, which, apart from provision for emigrants is considered to have been somewhat neglected in the past.

\* \* \*

**S**OME consternation has been created in shipbuilding circles by the fact that German tenders for eight refrigerator vessels for the Blue Star line estimated to be worth about £2,000,000 offered to build these vessels at about £20,000 per vessel below the lowest British quotation. It is understood that Dutch tenders also leave a considerable margin. The Blue Star line has a fleet of 17 cargo steamships, all of which have been constructed in Great Britain, nine of them on the Clyde, six on the Tyne and at Sunderland and two in Ireland. The directors of the Steamship

company are postponing their decision for a time, with a view to the business being placed with British yards if this should prove at all possible. The British builders have lost several orders lately, including an order for five motorships from Furness, Withy & Co. which went to Germany and an important order from Italian ship-owners for a vessel also to be built in Germany. This company has always previously placed its orders in Great Britain. The reason assigned by British builders for their inability to compete is the fact that the 48 hours system is rigidly adhered to in Great Britain whereas in Germany the men work ten hours longer. A conference between employers and workmen is now proceeding in London with a view to some practical proposals which will improve the British position in international competition.

\* \* \*

**T**HE largest marine diesel engine yet built has just been completed in Harland & Wolff's Belfast works. This is a 10,000-horsepower unit and is one of two sets for installation in the Royal Mail Steam Packet Co.'s 22,000 ton passenger liner **ASTURIAS**.

\* \* \*

**GREENOCK DOCKYARD** has received an order for the General Steam Navigation Co. The vessel will be engaged by Ross & Duncan, Glasgow.

**T**HE Anchor liner **CALEDONIA** has been launched from the Linthouse yard of Alexander Stephens & Sons Ltd., on the Clyde. She is intended for the Glasgow-New York service, is of 17,000 tons gross and has accommodation for 205 first class passengers, 733 second class and 800 third.

\* \* \*

**A**NOTHER important launch on the Clyde which took place on April 23 was the **CONTE BIANCAMANO** built by William Beardmore & Co. Ltd., for the Lloyd Sabaudo Co., of Genoa. This company has already turned out two large liners for the Italian company. These were of 18,000 tons gross and 18½ knots service speed. The new ship is 55 feet longer and two feet broader than the two previous ships, of 23,000 tons gross and designed for a speed of 20 knots. In this case, also, special provision is made for third-class passengers. The machinery is of the Parsons compound steam turbine type, acting on two shafts through the double-reduction, double-helical gearing which is considered to have been highly successful in the two earlier ships.

\* \* \*

**T**HE Anglo-Saxon Petroleum Co., London have placed an order for two vessels with Hawthorn, Leslie & Co., Ltd., Hepburn-on-Tyne, and a similar order with the Palmer Shipbuilding & Iron Co., Ltd., Jarrow-on-Tyne.

## What's Doing Around The Lakes

**F**OR the first time since Chicago has been a port, merchandise can be shipped to tidewater without transshipment. Six steel steamers of the Rutland-Lake Michigan Transit Co. are now operating between Chicago, Milwaukee and Montreal, with departures every three days from Chicago and Montreal. The all-water rates to tidewater are claimed to be 15 to 30 per cent lower than the corresponding rail charges. The westbound rates per 100 pounds from

classes 1 to 6 inclusive are \$1.02, 90c, 68½c, 47c, 40½c and 33½c, respectively. The eastbound rates are \$1.12, 99c, 75½c, 52c, 44½c and 37c, respectively. The schedule from Chicago to Montreal calls for 6½ days, or not over 1½ days longer than the fastest rail service from Chicago to New York. Ports of call other than Chicago, Milwaukee and Montreal are Fairport, O., Oswego and Ogdensburg, N. Y., and for westbound cargoes Brockville, Ont.

**T**HE Chicago sanitary district commission received a blow as serious as the Supreme Court decision denying the right to continue to take 10,000 cubic feet a second out of Lake Michigan when Governor Small, of Illinois, vetoed the bill authorizing the commission to issue \$19,000,000 in bonds. The proceeds of this bond issue were to be utilized for a start on the sewage disposal plants ordered by Secretary of War Weeks. Certain phraseology in the bill precipitated the veto



and a political row is resulting. Word from Washington is that the war department will insist on diminution of the flow at the end of the stated period within which disposal works were to be built and no additional time will be allowed.

**A** TREASURE hunt in Lake Michigan is being planned by Capt. A. F. Dorn, 4653 North Clark street, Chicago. Two ships, both sunk in the northern end of the lake, are the objective, and the LILLIAN DORN is now being fitted up at Chicago with diving and hoisting equipment. Back in 1863 a wooden schooner left Erie, Pa., for

Chicago, freighted with arms, ammunition and money for paying off Civil war soldiers. The second ship is the KUYUAGA, said by Captain Dorn to have been a Lehigh Valley steamer, laden with meat, grain, lard and flour at the time it collided with the HERD in a dead calm. The cargo, Captain Dorn believes, will be found well preserved.

**C**APT. W. G. STACKFORD, captain of the sand sucker KELLEY ISLAND, who was drowned with eight of his crew when the vessel capsized off Point Pelee on May 2, was adjudged responsible for the accident by

a coroner's jury meeting at Leamington, Ont., on May 14.

The cause, it is said, the jury found, was the captain's negligence in ordering the sand sucker hose disconnected before the aperture in the side of the ship through which it passed could be covered. Water shipped through this hole caused the boat to overturn, it was found.

The report recommended that the government equip the life saving station at Point Pelee with a new life boat to replace the present unseaworthy one. In addition to the finding of the jury a study of the vessel's stability is desirable.

## Ocean Freight Rates

Per 100 Pounds Unless Otherwise Stated

Quotations Corrected to May 18, 1925 on Future Loadings

NOTE: FREIGHT RATES STEADY WITH BUSINESS QUIET

New York to	Grain	Provisions	Cotton (H. D.)	Flour	General cargo cu. ft.	100 lbs.	Finished steel	REMARKS Freight Offered	From North Pacific Ports to	Lumber Per m. ft.
Liverpool.....	1s 6d†	\$0.50	\$0.30 to 0.45	0.20	\$0.40	\$0.75	\$7.00T	Fair	San Francisco.....	\$5.00
London.....	1s 6d†	0.50	0.45	0.20	0.40	0.75	7.00T	Fair	South California.....	5.00 to 6.00
Oslo.....	\$0.16	0.45	0.40	0.27	0.42½	0.85	7.00T	Very poor	Hawaiian Islands.....	10.00 to 12.00
Copenhagen.....	0.16	0.45	0.50	0.26	0.42½	0.85	7.00T	Very poor	New Zealand.....	17.00 to 20.00
Hamburg.....	0.14	0.35	0.38½	0.18	0.37½	0.75	8.00T	Fair	Sydney.....	14.00 to 15.00
Bremen.....	0.14	0.35	0.38½	0.18	0.37½	0.75	8.00T	Fair	Melbourne-Adelaide.....	15.00 to 16.00
Rotterdam and Amsterdam.....	0.14	0.32½	0.40	0.20	0.35	0.70	7.50T	Fair	Oriental Ports.....	6.00 to 8.00
Antwerp.....	0.13	0.32½	0.35	0.18	0.35	0.70	7.50T	Fair	Oriental Ports (logs).....	10.00 to 12.00
Havre.....	0.14	0.50	0.35	0.27½	0.40	0.75	8.00T	Very poor	Peru-Chile.....	12.00 to 14.00
Bordeaux.....	0.14	0.50	0.35	0.27½	0.40	0.75	8.00T	Very poor	South Africa.....	17.00 to 18.00
Barcelona.....	0.18	12.00T	0.30	10.00	—12.00T—	—	10.00T	Very poor	Cuba.....	14.00 to 16.00
Lisbon.....	0.20	.....	0.40	7.00T	—20.00T—	—	7.00T	Fair	United Kingdom.....	80s to 90s
Marseilles.....	0.15	0.55	0.30	6.00	—20.00T—	—	5.00T	Slow	United Kingdom (ties)...	70s to 80s
Genoa.....	0.17½	12.50	0.40	8.25	—20.00T—	—	10.00T	Fair	Baltimore-Boston range...	\$14.00 to 15.00
Naples.....	0.17½	12.50	0.40	8.25	—20.00T—	—	10.00T	Fair	Baltimore-Boston range (ties).....	Not quoted
Constantinople.....	0.27	17.00T	0.75	0.32½	—20.00T—	—	9.00T	Fair	Buenos Aires.....	14.00
Alexandria.....	.....	17.00T	0.75	0.32½	—20.00T—	—	9.00T	Poor	Flour and Wheat	
Algiers.....	0.20	0.75	0.75	0.40	—20.00T—	—	7.00T	Very Slow	U. K. and Continent	
Dakar.....	.....	15.00	.....	12.50T	—21.00T—	—	10.50T	Fairly well	(gross ton).....	30s to 33s 9d
Capetown.....	10.00T	18.00	.....	12.00T	—18.00T—	—	11.00T	Very Good		
Buenos Aires.....	.....	18.00 to 20.00T	.....	.....	18.00 to 20.00T†	8.00 to 8.80T	8.00 to 8.80T	Fair		
**Rio de Janeiro.....	.....	21.50 to 23.50T	.....	11.25 to 12.50T	19.00 to 21.00T†	7.00 to 7.70T†	7.00 to 7.70T†	Fair		
Pernambuco.....	.....	22.00T	.....	9.50T	—22.00T—†	9.70T†	9.70T†	Fair		
Havana.....	0.22½ to 0.27½*	0.42½*	.....	0.22½*	0.54* 1.08*	0.20*	0.20*	Fair		
Vera Cruz.....	0.25	0.40	0.45	0.25	0.52½	1.05	0.30 to 0.35	Fair		
Valparaiso.....	.....	1.07	.....	0.70	0.45	0.80	10.00T	Fair		
San Francisco.....	.....	0.40 to 0.70	.....	0.50 to 1.10	.....	2.50	0.55 to 1.00	Very Good		
Sydney.....	.....	18.00T	2.50	18.00T	18.00-24.00T	9.00-12.00T	9.00-12.00T	Fair		
Calcutta.....	.....	16.00T	0.60	12.00T	—16.00T—	10.00T	10.00T	Fair		

T—Ton. †Per quarter of 480 lbs. ‡Landed. ††Heavy products limited in length. \*Extra charge for wharfrage.  
\*\*Plus \$1.00 surcharge on all rates to Rio de Janeiro on account of congestion.

### Principal Rates To and From United Kingdom

Grain, River Plate to United Kingdom...	16 9	Pig iron, United Kingdom to New York or Philadelphia.....	14 0
Coal, South Wales to Near East.....	11 3	Iron ore, Bilbao to Cardiff.....	5 9
Coal, United Kingdom to Buenos Aires...	16 3	Iron ore, Huelva to Phila. or Balto.....	10 6
Manganese Ore, Poti to Philadelphia....	\$3.25		

## Bunker Prices

### At New York

	Coal alongside per ton	Fuel oil alongside per barrel	Diesel oil alongside per gallon
April 8, 1924	4.50@6.50	1.66½	5.51
July 21.....	4.50@6.25	1.81½	5.15@5.65
Dec. 22.....	5.25@6.05	1.86½	5.15@5.50c
Jan. 20.....	5.25@6.05	1.86½	5.00c
Feb. 18.....	5.25@6.05	1.86½	5.50c
Mar. 17.....	5.00@6.25	1.86½	6.00@6.50c
April 20.....	5.00@6.00	1.86½	5.50
May 18, 1925	5.00@6.00	1.75	5.48

### At Philadelphia

	Coal trim. in bunk per ton	Fuel oil alongside per barrel	Diesel oil alongside per gallon
April 8, 1924	4.85@5.85	1.955	5.41@5.65c
July 21.....	4.85@6.00	1.945	5.40
Dec. 22.....	5.25@5.80	1.865	5.15c
Jan. 20.....	5.25@5.80	2.06	5.41@5.65
Feb. 18.....	5.25@5.80	2.10@2.25	5.9@6.9
Mar. 17.....	5.05@5.82	2.06½@2.31	6.10@6.15
April 20.....	5.00@6.00	1.95@2.06½	5.65½
May 18, 1925	5.00@5.80	1.85@1.91½	5.41@5.64

### Other Ports

Boston, coal, per ton...	\$6.63
Boston, oil, f. a. s., per barrel.....	\$1.82
Hampton Roads, coal, per ton, f.o.b., piers.....	4.75
Cardiff, coal, per ton...	15s 6d
London, coal, per ton...	22s 6d
Antwerp, coal, per ton...	23s 0d

## New Trade Publications

**WHEELER EVAPORATORS**—An informing discussion of apparatus for the production of distilled water for boiler feed make-up is presented in a 32 page catalog distributed by the Wheeler Condenser & Engineering Co., of Carteret, N. J. The fitting of evaporators into power plant heat balance and the relation of the evaporator to other heat balance equipment is discussed, and various types of hookups are illustrated by the heat balance diagrams of representative stations. The operating characteristics of four types of evaporators are described, two of which are film evaporators in which evaporation takes place from a falling film of liquid produced by showering the water over the tube nest, and two are sub-merged tube evaporators. For very high pressure installations, there is the Wheeler Contraflo sub-merged tube evaporator. Other topics of interest are the advantages of distilled boiler feed water and the direction of liquid flow.

**BETHLEHEM-AMDYCO**—The Bethlehem Shipbuilding Corp., Ltd., has gotten out bulletin 38, devoted exclusively to the Amdyco fire extinguishing system. The general use of this system for industrial as well as steamship use

is covered, though its use in the marine field is particularly stressed. The catalog is illustrated and the manner of installation is covered in a general way.

**REFRACTORIES AND FURNACE DESIGN**—The Pliabrico Jointless Firebrick Co., Kingsbury at Clay street, Chicago, have just issued a new catalog of their products. This booklet covers very completely the building of refractory furnaces. Furnace problems are discussed and solutions advanced for them. Methods of using these installations are also covered. Special attention has been paid to the building of marine combustion chambers. The catalog is very well illustrated and many types of furnaces are shown in diagram. The pamphlet is 36 pages in length.

**CRANES**—A bulletin by the Morgan Engineering Co., Alliance, O., features one of its types of cranes, giving details of construction of the bridge and trolley, with special features for efficient service.

**COLLAR OILING BEARING**—Mill clutch Machine & Foundry Co., Cleveland, has issued a bulletin calling attention to its positive oil feed and distribution system which inter-

poses a film of oil between shaft and bearings and reduces friction to a minimum.

**HOISTS**—Hoisting machinery for various classes of service is presented in detail with illustrations and diagrams in a bulletin by the Western Machinery Co., Los Angeles. Specifications and engineering details are given fully.

**MULTIPLE LIFT TRUCKS**—A bulletin by the Stuebing Truck Co., Cincinnati, describes its new type of lift truck by which one man can lift loads up to 5000 pounds, by four short lifts raising the load full three inches, giving ample clearance. The application of power is such that one man can become the equivalent of 48 in dead lift. A 36-page catalog is just off the press, describing this and other trucks and lifting devices.

**BRASS**—Humor for the eye in cartoons and sound sense in the text, yet flavored with wit, making up the appealing message of a series of advertisements by the Chase Metal Works, Waterbury, Conn., made into a booklet after being used in the regular way. Probably the message under the cartoon gets a lot deeper in the minds of the brass user than the regular sort of advertising.

**BULL RIVETERS**—Another of its family of riveters is featured in a catalog by the Hanna Engineering Works, Chicago. Full description of the riveter, its parts, action and results give the reader a complete understanding of what is accomplished by its use.

## Business News for the Marine Trade

**North Shore Dredging & Dock Co.** has been incorporated in New York with \$100,000 capital by J. S. Moran, D. T. Howell and P. B. Pray.

**Daniel Roe Towing & Transportation Co.**, 1 Broadway, New York, has been formed by Daniel R. Roe, for many years associated with the James McWilliams Blue Line Inc.

**Alpha Towing & Transportation Co., Inc.**, has removed its offices from 15 Whitehall street to 17 Battery place, New York.

**F. Jarka & Co.**, steamship terminal operators, have opened an office on the Commonwealth pier at Boston, in charge of Capt. C. H. Hurley. The company's headquarters are at New York.

**Fillette, Greene & Co.**, general agents at Pensacola, Fla., have opened a branch office at Mobile, Ala., in the First National Bank building, in charge of T. O. Fillette.

**W. A. Morrissey Inc.** has been formed by W. A. Morrissey and associates, 44 Whitehall street, New York.

**C. & B. Steamship Lines**, George A. Bomm general manager, will build one of the largest passenger and freight terminals on the Great Lakes this summer. It will be at the foot of Erie street in Buffalo, N. Y., and the cost is estimated at \$1,000,000.

The Erie railroad is having plans prepared for a 3-story pier, of steel and concrete, in Jersey City, N. J., over the Holland vehicular tunnel. It will be 140 feet wide and 1220 feet long.

**A. W. DeYoing Shipbuilding Co.**, Alameda, Calif., on San Francisco bay, will enlarge and add to the capacity of its shipyard this summer.

**Lower Columbia Ferry Co.** has been incorporated in the state of Washington to build and operate a ferry from Astoria, Oreg., and the Washington shore of the Columbia river. A contract for the ferryboat will be let short-

ly. It will be 130 feet long, 37 feet beam and contain a 200-horsepower engine.

Improvements in the Mallory-Gulf terminals at Tampa, Fla., will be started as soon as contracts can be let. Wharves 500 feet long will be built and two freight warehouses each 70 x 270 feet.

**Mississippi River Ferry Co.**, Memphis, Tenn., has been incorporated with \$10,000 capital by C. J. Miller and George W. Mill.

**Kahlenberg Bros.** have awarded a contract for a factory 85 x 105 feet for the production of marine and oil motors.

**Secesh Dredging, Mining & Milling Co.**, Spokane, Wash., has been incorporated with \$250,000 capital by S. S. Bassett, 406 Hyde building, J. N. Rice and W. B. Starky.

**Ellis Shipping Co., Ltd.**, Montreal, Que., has been incorporated with \$75,000 capital by Joseph P. A. Gravel, Andrew C. M. Thomson and Janet S. M. Smith.

**Spedden Shipbuilding Co., Inc.**, Baltimore, recently incorporated with capital of \$50,000 and 1000 shares of no par value, has taken over the plant of the company of the same name at Kenwood street and Boston avenue. The yard will be enlarged.

**Stevadore Utility Corp.** has been incorporated at New York with \$20,000 capital by H. Klein, L. Lifton and E. J. Blackstone. J. J. Tashof, 44 Cedar street, is attorney.

**National Malleable & Steel Castings Co.**, Cleveland, manufacturer of anchor chain cable, has removed its branch sales office at Chicago from 311 Railway Exchange building to 501 in the same building.

Fire recently swept the yards of the American Shipbuilding Co., Cleveland, did considerable damage and interrupted repair work for some time.

**Tacoma Machine Works**, 1501 Dock street, Tacoma, Wash., J. J. Hicks, secretary and manager, a new incorporated company, has bought

at receiver's sale the plant and equipment of the Doud MacFarlane Co. and will enlarge its department of marine repair work and the production of marine hardware.

**Meteghan Shipping Co.**, Meteghan, Doby county, Canada, is building a marine railway, shipbuilding and repair plant which will accommodate vessels of considerable size.

**Thomas Propeller Corp.**, Fairhaven, Mass., has been incorporated with \$50,000 capital by Milton D. Thompson, Arthur Yates of Fairhaven, Julian Burgess, Roy A. Jenkins and Frederick Kavolsky of Fall River and Milton D. Thompson Jr. of Fairhaven.

**Union Stevedoring Corp.**, 921 South Fiftieth street, Philadelphia, has been incorporated with \$10,000 capital by J. P. Murray and associates.

**Edgewater Boat Repair Yard**, Edgewater, N. J., has been incorporated with \$10,000 capital by Eustis James Baldwin of Union Hill, N. J. Smith and Harvey Smith of Astoria, L. I.

**Steam Tug George Fields** has been incorporated at New York with 50 shares common stock no par value by P. J. Bobson, C. P. Connell and J. R. Stewart. Foley & Martin, 64 Wall street, are attorneys.

**Gulf Coast Steamship Inc.**, has been incorporated at Cloverdale, Ala., with \$110,000 capital by Arthur B. Children and W. P. McCoy.

**Suwanee Navigation Co.** has been incorporated at Cedar Keys, Fla., with \$100,000 capital to operate passenger and freight steamers between Cedar Keys and Brandford. William F. Bowler is president.

**Valenti Stevedoring Co., Inc.**, has been incorporated at New Orleans by Steve P. Valenti president, 4411 Canal street and Peter J. Valenti, secretary, 925 Canal street.

**W. H. Barber Co.**, 3650 South Homan avenue, manufacturer of marine equipment, is in the market for additional machinery for a new factory unit.